APPENDIX G

Trip Generation Memorandum and Traffic Impact Analysis Report

Stantec

Memo

To:	Rob Sprinkle	From:	Sandhya Perumalla, and Daryl Zerfass PE, PTP
	City of Santa Rosa		Stantec
File:	185704321	Date:	October 23, 2019

Reference: Trip Generation Study of the proposed Caritas Village Project in the City of Santa Rosa

This letter presents the results of a trip generation analysis for the current Project description of the proposed Caritas Villages Project located in the City of Santa Rosa, California. The proposed Project is located on a 2.78-acre site within the Downtown Specific Plan area that is currently occupied by the existing Family Support Center and the Homeless Services Center buildings. The Project is bounded by Sixth Street on the south, Seventh Street on the north, A Street on the east, and Morgan Street on the west. The Project site location is provided as an attachment.

The proposed Project would have two components—Caritas Center and Caritas Homes. Caritas Center would combine a comprehensive family and homeless support services facility (approximately 46,587 square feet) to be operated by Catholic Charities Services. It currently has 67 employees working on-site and plans to increase to 147 employees (includes 15 volunteers) with the proposed Project. It currently serves 337 clients per day and plans to serve 402 clients per day with the proposed Project. There are currently 150 persons residing in the Family support Center, and the Transitional Living Space. With the proposed Project, there would be 260 residents, which includes the new Emergency Shelter.

Caritas Homes is proposed to be built in two phases and would provide up to 126 permanent affordable multi-family rental housing units and two additional units for on-site managers to be operated by Burbank Housing. Access to the proposed Project site would be via two driveways on Morgan Street and two driveways on A Street. The Project site plan is provided as an attachment.

A comprehensive traffic study for the Project was prepared by Stantec in October 2019 using greater trip generation developed in February 2019 based on the number of clients and employees reported by the applicants than what is proposed by the current Project description. The updated trip generation based on the revised Project description is presented in the following section.

Trip Generation

Table 1 summarizes the anticipated trip generation of the proposed Project. The trip generation estimates for the Caritas Center's support services use and the Caritas Homes residential use were prepared using a combination of standardized Institute of Transportation Engineers (ITE) 10th Edition trip generation rates and custom rates derived for the unique uses of this site. The Project primarily serves clients who are homeless and many of them do not own vehicles. This is not a standard type of use that is accounted for in the ITE Trip Generation manual, therefore an ITE trip rate is not available for the trips to be generated by the Project's clients. Hence, the client trips were calculated based on the following assumptions.

- Approximately 50% of the daily clients own or use cars
- Vehicle occupancy of 1.2 persons per vehicle
- Sum of AM and PM peak hour volumes represent approximately 15 percent of the ADT

The Sonoma County Homeless Census & Survey Comprehensive Report 2018 shows that 24 percent of the Sonoma County unsheltered homeless live in vans, cars or RV's. To be conservative, an assumption noted

Reference: **Trip Generation Study of the proposed Caritas Village Project in the City of Santa Rosa**

above is made that approximately 50 percent of the daily clients own or use cars, with occupancy of approximately 1.2 persons per vehicle.

As shown in Table 1, the proposed Project is expected to generate approximately 1,573 ADT, with 131 trips occurring during the AM peak hour and 134 trips occurring during the PM peak hour. However, taking credit for the existing trips generated by the current facility, the net new trips generated by the proposed Project would be approximately 1,032 ADT, with 80 trips occurring during the AM peak hour and 92 trips occurring during the PM peak hour. It should be noted that the residents at the Family Support Center are families and only 20 percent are estimated to have a car and 10 percent of the Transitional Living Space residents are estimated to have a car. An assumption that there would be three persons in a family is made for calculating the residents' average daily trips.

Table 1 Project Trip Generation Summary

Trip Rates	Amount	Units	AM Peak Hour			PM Peak Hour			ADT
			In	Out	Total	In	Out	Total	
General Office Building (710)		Emp	0.31	0.06	0.37	0.08	0.32	0.40	3.28
Multifamily Housing Mid-Rise (221)		DU	0.09	0.27	0.36	0.27	0.17	0.44	5.44
Trip Generation									
Existing									
Catholic Charities Facilities	67	Emp	21	4	25	5	21	26	220
Clients	337	Client	22	4	26	3	13	16	281
Residents	150	Per	-	-	-	-	-	-	40
Total Existing Trips			***43***	***8***	***51***	***8***	***34***	***42***	***541***
Proposed									
Caritas Center Employees	147	Emp	45	9	54	12	47	59	482
Caritas Center Clients	402	Client	26	5	31	4	15	19	335
Caritas Center Residents	260	Per	-	-	-	-	-	-	60
Total Caritas Center Trips			***71***	***14***	***85***	***16***	***62***	***78***	***877***
Caritas Homes Phase I	64	DU	6	17	23	17	11	28	348
Caritas Homes Phase II	64	DU	6	17	23	17	11	28	348
Total Carita Homes Trips	***128***	***DU***	***12***	***34***	***46***	***34***	***22***	***56***	***696***
Total Proposed Project Trips			83	48	131	50	84	134	1,573
Revised Project - Net New Trips			**40**	**40**	**80**	**42**	**50**	**92**	**1,032**
Original Project (Caritas Traffic Impact Study) - Net New Trips			73	47	120	49	76	125	1,350
Difference between Revised Project and Original Project			-33	-7	-40	-7	-26	-33	-318

Trip Rate Source: Institute of Transportation Engineers (ITE), 10th Edition, 2017, with ITE code in parentheses
Clients Trip Rate Source: see Caritas Village Traffic Study, Stantec, October 2019
Caritas Center Residents Trip Rate Source: based on vehicle ownership data provided by the Applicant

ADT - Average Daily Trips

DU - Dwelling Unit
Emp - Employee
Per - Persons

Reference: **Trip Generation Study of the proposed Caritas Village Project in the City of Santa Rosa**

For comparison, the trip generation from the Project's traffic study is also shown in the table. As shown, the revised Project would generate fewer trips than was evaluated in the Project's traffic study (approximately 318 fewer daily trips, 40 fewer AM peak hour trips and 33 fewer PM peak hour trips) due to the current Project description which has reduced number of clients and employees.

As discussed above, the Caritas Village Traffic Study prepared by Stantec in October 2019 was based on a greater number of clients and employees than what is proposed by the current Project description. Based on the revised Project description provided by the client, the change in the existing and proposed number of clients reduced by approximately 63 percent and the number of employees reduced by approximately 48 percent. Therefore, the results provided in the Caritas Village Traffic Study prepared in October 2019 represent a worse-case condition that there would be no new impacts resulting from the change to the Project description.

Please feel free to contact Sandhya or Daryl if you have any questions or if you would like to discuss the above material.

Sincerely,

Stantec Consulting Services Inc.

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Attachment: Project Site Location
Project Site Plan

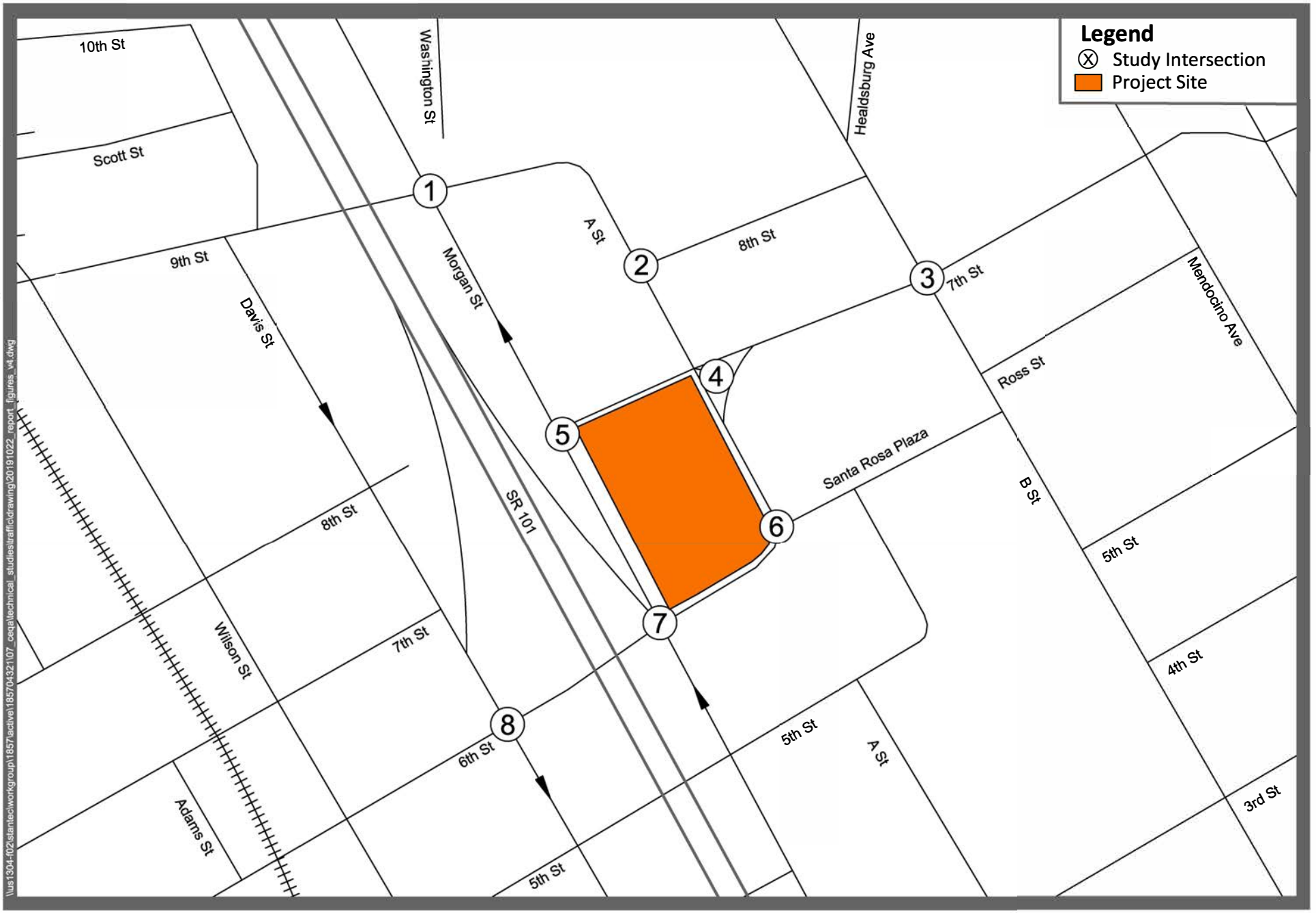

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Figure 1
Project Site and Study Area

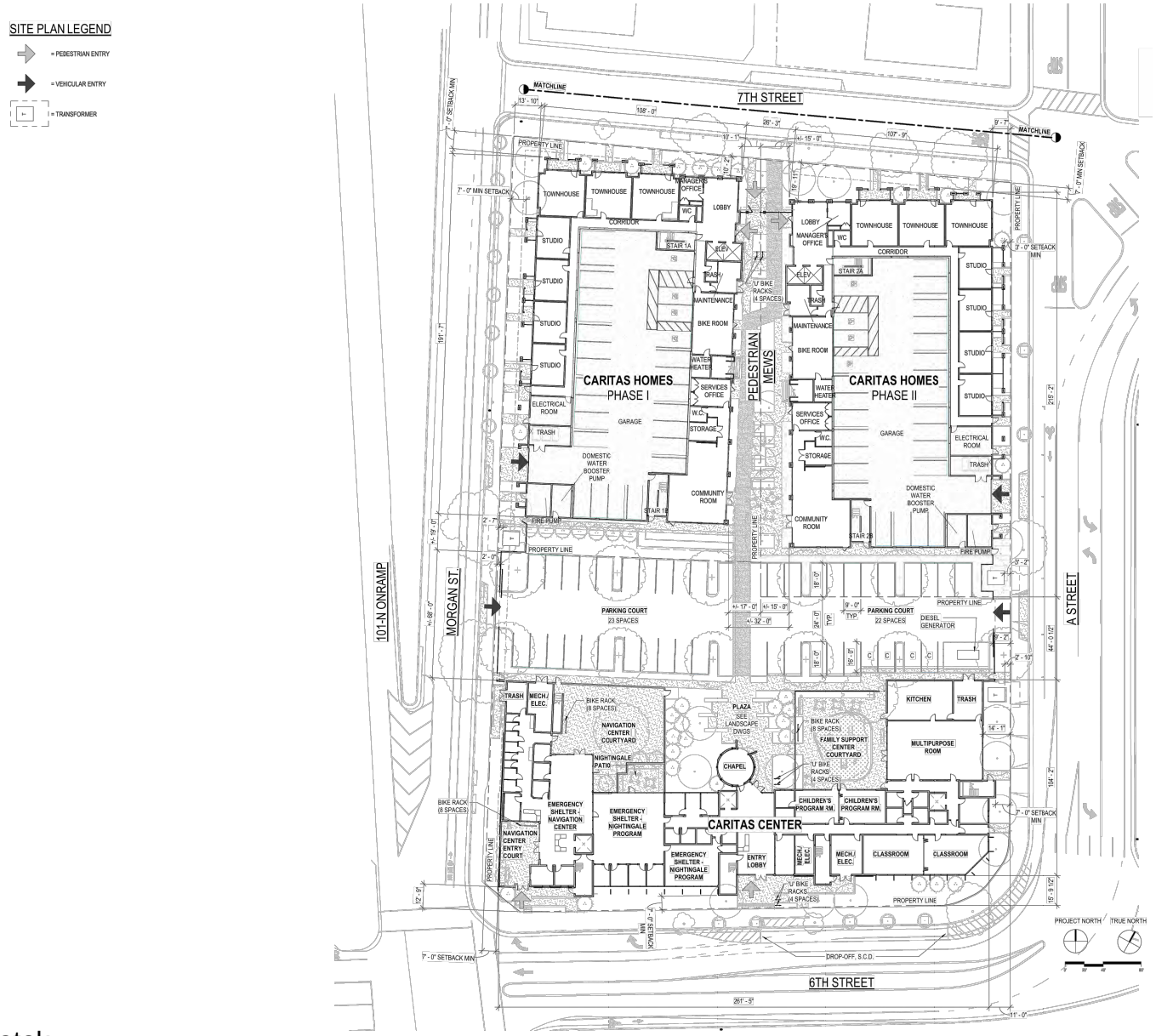

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Figure 2
Project Site Plan

Caritas Village Project
Traffic Impact Analysis

Santa Rosa, California

October 23, 2019

Prepared for:

City of Santa Rosa

Prepared by:

Stantec Consulting Services Inc.

Sign-off Sheet

This document entitled Caritas Village Project Traffic Impact Analysis was prepared by Stantec Consulting Services Inc. (“Stantec”) for the account of City of Santa Rosa (the “Client”).

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1.0 INTRODUCTION

This report presents the findings of a traffic study conducted to determine the potential traffic impacts of the proposed Caritas Village Project (Project) located in the City of Santa Rosa, California. The proposed Project is located on a 2.78-acre site within the Downtown Specific Plan area that is currently occupied by the existing Family Support Center and the Homeless Services Center buildings. The Project site location is illustrated in Figure 1-1.

The proposed Project would have two components—Caritas Center and Caritas Homes. Caritas Center would combine a comprehensive family and homeless support services facility (approximately 46,587 square feet) to be operated by Catholic Charities Services. Caritas Homes is proposed to be built in two phases and would provide up to 126 permanent affordable multi-family rental housing units and two additional units for on-site managers to be operated by Burbank Housing. Access to the proposed Project site would be via two driveways on Morgan Street and two driveways on A Street. The Project site plan is illustrated in Figure 1-2.

1.1 STUDY AREA

In consultation with the City staff, the following three signalized intersections and five unsignalized (stop-controlled) intersections in the vicinity of the Project site were selected to be analyzed in the traffic study:

1. Morgan Street & Ninth Street (unsignalized)
2. A Street & Eighth Street (unsignalized)
3. B Street & Seventh Street
4. A Street & Seventh Street (unsignalized)
5. Morgan Street & Seventh Street (unsignalized)
6. A Street & Sixth Street/Santa Rosa Plaza (unsignalized)
7. Morgan Street/101 NB On-Ramp & Sixth Street
8. Davis Street & Sixth Street

The study intersections are shown in the previously referenced Figure 1-1. The analysis includes evaluation of the AM and PM peak hour traffic conditions consistent with the City's traffic impact study requirements. The potential impacts of the project were evaluated in accordance with the standards of the City of Santa Rosa and as discussed in the following section. The study includes transit, bicycle, and pedestrian access and reviews the collision history.

1.2 METHODOLOGY

The following scenarios are analyzed in this traffic study in accordance with the standard procedures of the City of Santa Rosa.

1. Existing Conditions without-Project
2. Existing Conditions with-Project
3. Long Range conditions (2040) without-Project
4. Long Range conditions (2040) with-Project

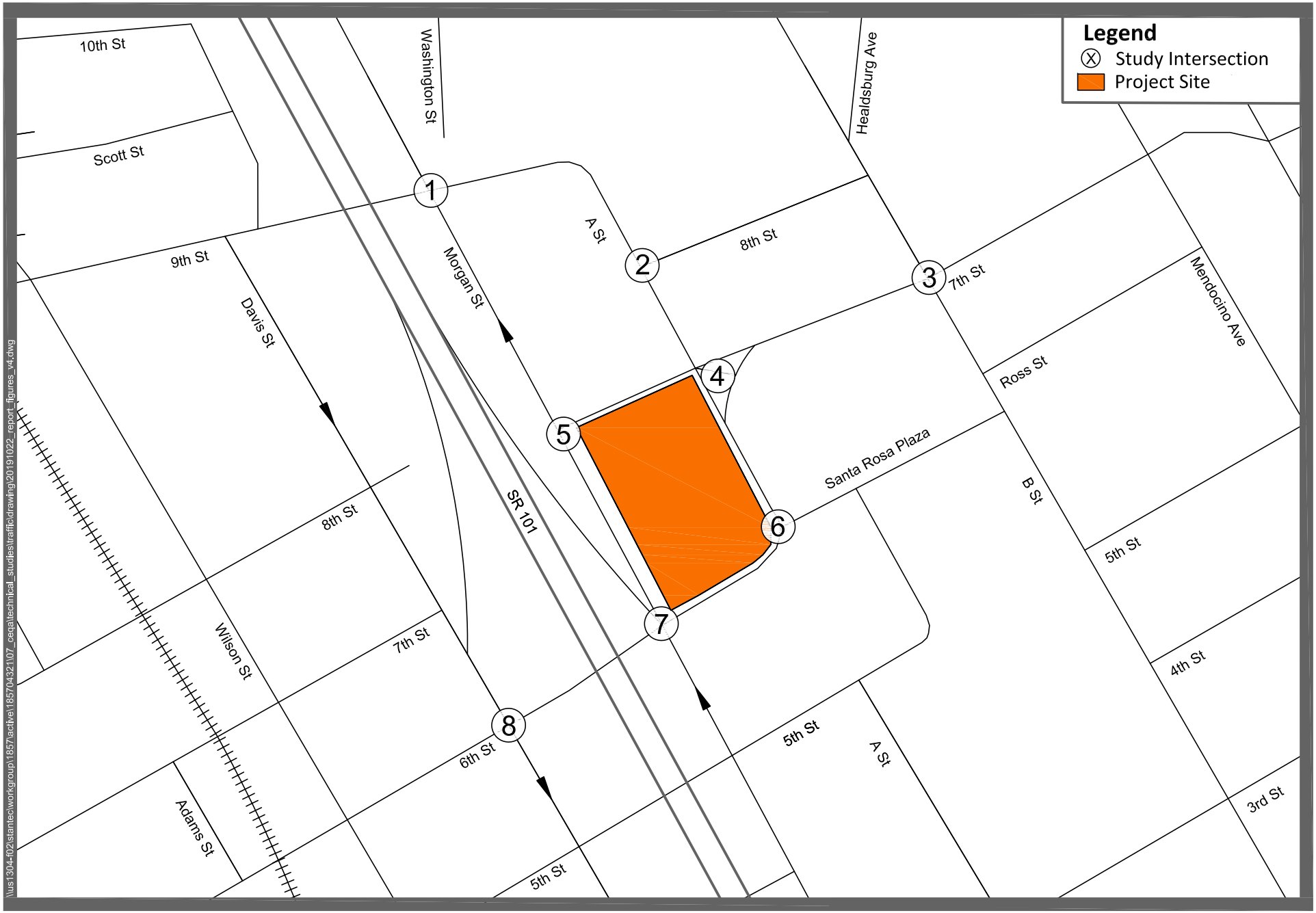

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Figure 1-1
Project Site and Study Area
1.2

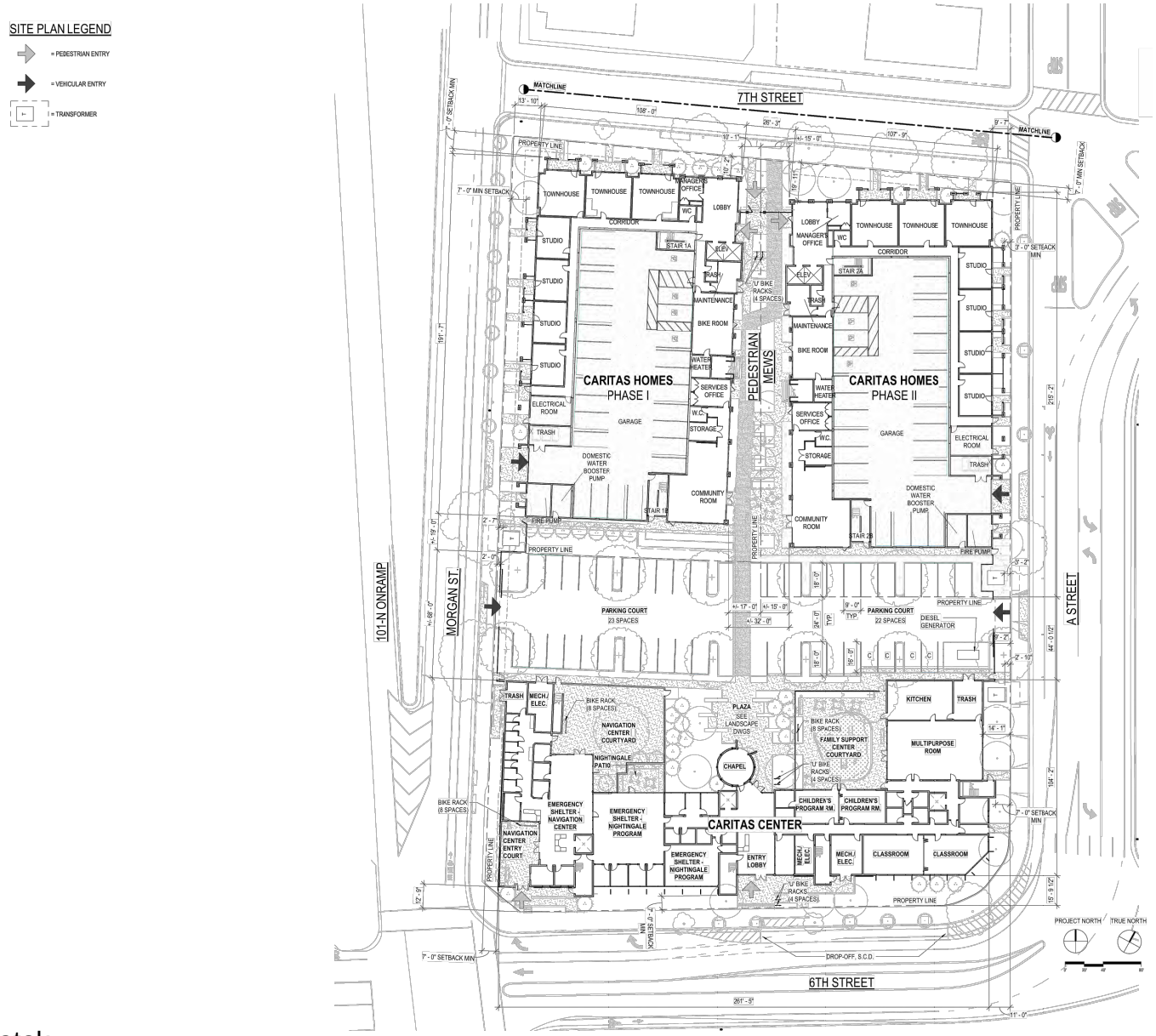

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Figure 1-2
Project Site Plan
1.3

The existing conditions scenario utilizes observed AM and PM peak hour traffic counts for study area intersections and 24-hour mid-block Average Daily Traffic (ADT) counts for key study area roadways. Data was collected in December 2018 and January 2019.

Sonoma County Transportation Authority (SCTA) provided traffic volume forecasts obtained from a county-wide computer traffic model maintained by them, which reflects long-range (2040) cumulative conditions. Long-range cumulative conditions (2040) intersection turning movement volumes were derived based on growth rates indicated by the SCTA traffic model forecasts.

1.3 PERFORMANCE CRITERIA

The impact analysis is based on specific performance criteria which are outlined in the following paragraphs. Where appropriate, mitigation measures are identified for those scenarios in which significant impacts are determined based on the established impact thresholds.

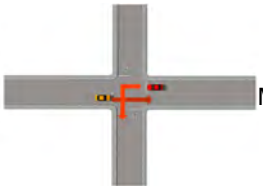
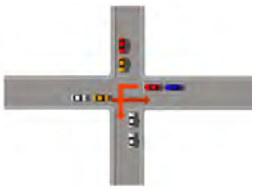
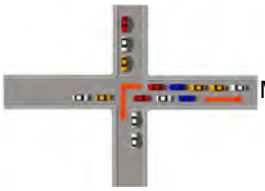
Defined performance criteria are utilized to determine if a proposed project would cause a significant impact. Performance criteria are typically based on two primary measures. The first is “capacity”, which establishes the vehicle carrying ability of a roadway, and the second is “volume.” The volume measure is either a traffic count (in the case of existing volumes) or a forecast for a future point in time. For arterial roadways in an urban or suburban setting, the intersection of two roadways will typically be the limiting factor in regard to the overall capacity of the roadway network.

Methodology outlined in the Highway Capacity Manual, Sixth Edition produces estimates of average vehicle delay as a function of intersection capacity and the volume of traffic passing through the intersection. From this a corresponding level of service (LOS) is defined. Traffic LOS is designated “A” through “F” with LOS “A” representing free-flow conditions and LOS “F” representing severe traffic congestion. Table 1-1 summarizes the ranges of vehicle delay that correspond to LOS “A” through “F” for signalized and unsignalized intersections. The ranges are those defined in the HCM 2010 and are used for estimating intersection LOS.

While ADT is a useful measure to show general levels of traffic on a facility and to provide data for other related aspects such as noise and greenhouse gas (GHG) emissions, congestion is largely a peak hour or peak period occurrence and ADT does not reflect peak period conditions very effectively. Because of this, ADT is not used here as the basis for capacity evaluation. Instead, this evaluation focuses on the parts of the day when such congestion can occur, specifically the AM and PM peak hours.

For the arterial system, the peak hour is the accepted time period used for impact evaluation and a number of techniques are available to define intersection LOS. Both the level of delay and the LOS are used in determining impact significance. Certain LOS values are deemed unacceptable by the City and increases in delay that cause or contribute to the LOS being unacceptable are defined as a significant impact. These definitions and procedures are established by individual local jurisdictions, such as the City or the County.

Table 1-1 Level of Service Descriptions for Signalized and Unsignalized Intersections

LOS	Traffic Flow Description	Signal Control Delay	Stop Control Delay
A	 Minimal or no vehicle delay	≤ 10	≤ 10
B	Slight delay to vehicles	> 10 – 20	> 10 – 15
C	 Moderate vehicle delays, traffic flow remains stable	> 20 – 35	> 15 – 25
D	 More extensive delays at intersections	> 35 – 55	> 25 – 35
E	Long queues create lengthy delays	> 55 – 80	> 35 – 50
F	Severe delays and congestion	> 80	> 50

Source: HCM 6th edition
Delay = average seconds of delay per vehicle

LOS for arterial roadway intersections are determined based on operating conditions during the AM and PM peak hours and the geometric configuration of the intersection. For this study, HCM delay methodology is used to analyze both the signalized intersections and the stop-controlled intersection using Synchro software. The result of these calculations is an estimate of average peak hour vehicle delay at the intersection.

The LOS calculation methodology and associated LOS performance standards and thresholds of significance as used in this analysis are summarized in Table 1-2.

1.4 DEFINITIONS

Certain terms used throughout this report are defined below to clarify their intended meaning:

ADT	Average Daily Traffic. Generally used to measure the total two-directional traffic volumes passing a given point on a roadway.
LOS	Level of Service. A scale used to evaluate circulation system performance based on intersection ICU values or volume/capacity ratios of arterial segments.
Peak Hour	This refers to the hour during the AM peak period (typically 7 AM - 9 AM) or the PM peak period (typically 4 PM - 6 PM) in which the greatest number of vehicle trips are generated by a given land use or are traveling on a given roadway.

1.5 REFERENCES

1. “Trip Generation 10th Edition,” Institute of Transportation Engineers, 2017.
2. “Highway Capacity Manual, Sixth Edition,” Transportation Research Board, National Research Council, 2016.
3. “Santa Rosa General Plan 2035”, City of Santa Rosa, November 3, 2009.
4. “Guidance for the Preparation of Traffic Operational Analysis”, City of Santa Rosa, March 2019.
5. “Northern Downtown Pedestrian Linkages Study Final Report”, City of Santa Rosa, April 2006.
6. “Downtown Station Area Specific Plan”, City of Santa Rosa, October 9, 2007.
7. “Sonoma County Homeless Census and Survey Comprehensive Report 2018”, Applied Survey Research, 2018.

Table 1-2 Arterial Intersection Performance Criteria

Delay Methodology

Calculation Methodology

Level of service based on "average vehicle delay" calculated as follows:

- Synchro/HCM Sixth Edition delay-based intersection methodology for traffic signals
- Synchro/HCM Sixth Edition delay-based intersection methodology for stop control (approach with highest average delay)
- Sidra delay-based intersection methodology for roundabouts

Performance Standard

Level of service (LOS) D defined as follows for major corridors except within downtown:

- stopped delay to not exceed 55 seconds for signalized intersections
- stopped delay to not exceed 35 seconds for stop sign intersections
- stopped delay to not exceed 50 seconds for roundabouts

Note: The City of Santa Rosa General Plan 2035, Standard TD-1 states that the City should maintain a Level of Service D or better along all the major corridors. Exceptions to meeting the standard include within the downtown area, where LOS E and F is acceptable.

Significant Impact Thresholds

Based on the City of Santa Rosa's TIA Guidelines for operational thresholds, an intersection is considered to be significantly impacted if the Project would:

- Worsen a signalized intersection from currently operating at an acceptable LOS D or better under no-project conditions to unacceptable LOS E or F under project conditions, except as noted below.
- Cause the following increase in the average delay at an intersection that operates at LOS E or LOS F:
  - LOS E or F with the Project: more than 5-second increase in average delay is significant for signalized intersections
  - LOS E or F with the Project: more than 5-second increase in average delay is significant for stop sign intersections
- Exceptions may be granted if the intersection is within the downtown area.

Abbreviations:
LOS – Level of Service

2.0 TRANSPORTATION SETTING

The following section describes existing and future traffic conditions in the study area. It includes a description of the study area roadway system, existing traffic volumes and corresponding levels of service as defined by the performance criteria outlined in the previous chapter, public transportation services, and active transportation facilities. Forecasts of the baseline future traffic conditions are also presented.

2.1 EXISTING CONDITIONS

2.1.1 Existing Roadway System

As previously described in Chapter 1.0, the proposed Project is located northwest of Santa Rosa Plaza mall, bounded by Sixth Street on the south, Seventh Street on the north, A Street on the east, and Morgan Street on the west in the City of Santa Rosa. Access to the proposed Project site would be via two driveways on Morgan Street and two driveways on A Street as shown in the Project site plan provided in Chapter 1.0. Regional access to the project site is provided via US 101.

Morgan Street runs in a north-south direction from Third Street to Ridgway Avenue. It is classified as a three-lane regional arterial street in the Santa Rosa 2035 General Plan. It runs as a one-way (northbound) street from Third Street to Ninth Street where it transitions to a two-way street. The speed limit is 25 mph and there is a bike lane and on-street parking on both sides of the street in the immediate vicinity of the Project.

A Street runs in north-south direction from Sixth Street to Ninth Street. It is classified as a two-lane transitional collector street in the Downtown Station Area Specific Plan. It is a two-lane roadway with on-street parking and a sidewalk on both sides of the road north of Seventh Street. South of the Seventh Street, there is a sidewalk and bike lane on both sides of the street. However, on-street parking is available only on the west side of the street. The speed limit is 25 mph.

B Street runs in a north-south direction from First Street to Lincoln Street. The Downtown Station Area Specific Plan classifies B Street as a two-lane regional arterial from Healdsburg Avenue to Seventh Street and as a four-lane regional arterial street from Seventh Street to First Street. It has sidewalks on both sides of the street and it has a bike lane and on-street parking only on portions of the street.

Sixth Street is classified as a two-lane transitional collector street in the Downtown Station Area Specific Plan from the railroad right-of-way to A Street. Sixth Street spans less than one mile and runs in an east-west direction. It begins at a cul-de-sac west of Madison Street and ends at the Santa Rosa Plaza and A Street intersection. It has on-street parking and a sidewalk on both sides of the street. The speed limit is 25 mph and there is a railroad crossing just west of Wilson Street.

Seventh Street is classified as a two-lane transitional collector street in the Downtown Station Area Specific Plan from A Street to D Street. It runs in an east-west direction on both sides of US 101. West of US 101, it begins at Polk Street and ends at Davis Street. East of US 101, it begins at Morgan Street and ends at E Street. It has on-street

parking and a sidewalk on both sides of the street. The speed limit is 25 mph and there is a railroad crossing just west of Wilson Street.

Eighth Street is a local street that runs in an east-west direction on both sides of US 101. West of US 101, it begins at Ninth Street and ends east of Davis Street. East of US 101, it begins at A Street and ends at B Street. It is a two-lane roadway with on-street parking and a sidewalk on both sides of the street. The speed limit is 25 mph ant there is a railroad crossing just west of Wilson Street.

Ninth Street runs in an east-west direction and is classified as a two-lane transitional collector street from A Street to Morgan Street in the Downtown Station Area Specific Plan. It has a sidewalk on both sides of the street. On-street parking is available on both sides of the street on sections of the roadway and the speed limit is 25 mph.

Davis Street runs in a north-south direction from Ninth Street to Third Street. It is a two-lane roadway north of Seventh Street. South of Seventh Street at the US 101 off ramp it transitions to a one-way street (southbound only) and ends at Third Street which becomes the US 101 on-ramp. There is a sidewalk and a bike lane on both sides of the street. The speed limit is 25 mph.

US 101 is the major highway of the North San Francisco Bay Area. It runs in a north-south direction and is located just west of the Project site with the nearest on-ramp at the Sixth Street and Morgan Street intersection, and an off-ramp at the Davis Street and Sixth Street intersection. It connects to SR 12 approximately one mile south of the Project site. Existing intersection lane configurations for the study locations are illustrated in Figure 2-1.

2.1.2 On-site Circulation

This section describes the site access and circulation based on the Project site plan previously shown in Figure 1-2. Vehicular access to the Project site would be via two driveways on Morgan Street and two driveways on A Street. Of the two driveways on Morgan Street, the northern driveway provides access into the Caritas Homes Phase I parking garage and the southern driveways provides access to Caritas Center parking court. Of the two driveways on A Street, the northern driveway provides access into the Caritas Homes Phase II parking garage and the southern driveway provides access to Caritas Center parking court.

The Caritas Center parking court has an east-west drive aisle that extends the full length of the Project site and has connectivity between the driveway on Morgan Street and the driveway on A Street. There are two pedestrian entry ways on the Sixth Street, one on the corner of Morgan Street and Sixth Street that leads into the Day Services area and the other which leads to the Caritas Center lobby.

Phases I and II of Caritas Homes have separate parking garages and will be accessed via their own separate driveways. Caritas Homes has a gated pedestrian entry way on the Seventh Street.

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Figure 2-1
Existing Intersection Lane Configuration
2.3

2.1.3 Existing Traffic Volumes and Levels of Service

Existing average daily traffic (ADT), AM, and PM peak hour count data were collected in December 2018 and ADTs were collected again in January 2019 to determine if the holiday season affected the traffic volumes collected in December. As shown in Table 2-1 below, the percent change in ADTs for the study area roadway segments between December 2018 and January 2019 varied from -13 percent to +16 percent with an overall average change of 2 percent. In no case was the absolute magnitude of change substantial. Therefore, to be conservative, a seasonal adjustment of a two percent increase was applied to the December turning movement counts.

The existing average daily traffic (ADT) volumes for the key roadway segments in the study area are illustrated in Figure 2-2. The adjusted peak hour turning movement volumes are illustrated in Figure 2-3 for the AM peak hour and Figure 2-4 for the PM peak hour. The traffic count data sheets are provided in Appendix A.

Table 2-1 ADT Comparison

Location Name	ADT December 2018	ADT January 2019	% change
1. Sixth St between Morgan St & A St	5,227	5,355	2%
2. A St between Seventh St and Sixth/Santa Rosa Plaza	4,385	4,404	0%
3. Morgan St between Seventh and Sixth	2,189	1,910	-13%
4. Seventh St between Morgan St & A St	362	347	-4%
5. Seventh St between A St & B St	5,299	6,165	16%
6. A St between Eighth St & Seventh St	3,057	2,799	-8%
Total	**20,519**	**20,980**	**2%**

The results of the intersection LOS analysis for existing conditions are shown in Table 2-2**.** Each of the signalized intersections and the stop-controlled intersections were analyzed using the HCM delay methodology. It should be noted that for analysis purposes, the A Street and Seventh Street intersection is treated as two separate stop-controlled intersections due to its distinct orientation. Detailed LOS calculation worksheets are provided in Appendix B. The table shows that all the study area intersections currently operate at LOS A or LOS B during the AM peak hour and the PM peak hour.

2.1.4 Public Transportation

Santa Rosa CityBus provides transit services in Santa Rosa. There are 15 different bus routes that serve the City. Figure 2-5 illustrates the existing transit facilities. There are two transit hubs, Sonoma-Marin Area Rail Transit (SMART) Santa Rosa Downtown Station and the Transit Mall that are in a less than half mile radius from the Project site. The closest bus stops are in a 0.25-mile radius from the Project.

East of the Project, the closest bus stop is located on the B Street at Santa Rosa Plaza; south of the Project, a bus stop is located on Fifth Street at Morgan Street; west of the Project, a bus stop is located on Sixth Street at Wilson Street, towards north of the Project site, the closest bus stop is located on Ninth Street at Davis Street. CityBus Route 10 provides service every 30 minutes on a weekday from the Transit Mall to the Coddingtown Transit Hub, which runs through Morgan Street near the Project site.

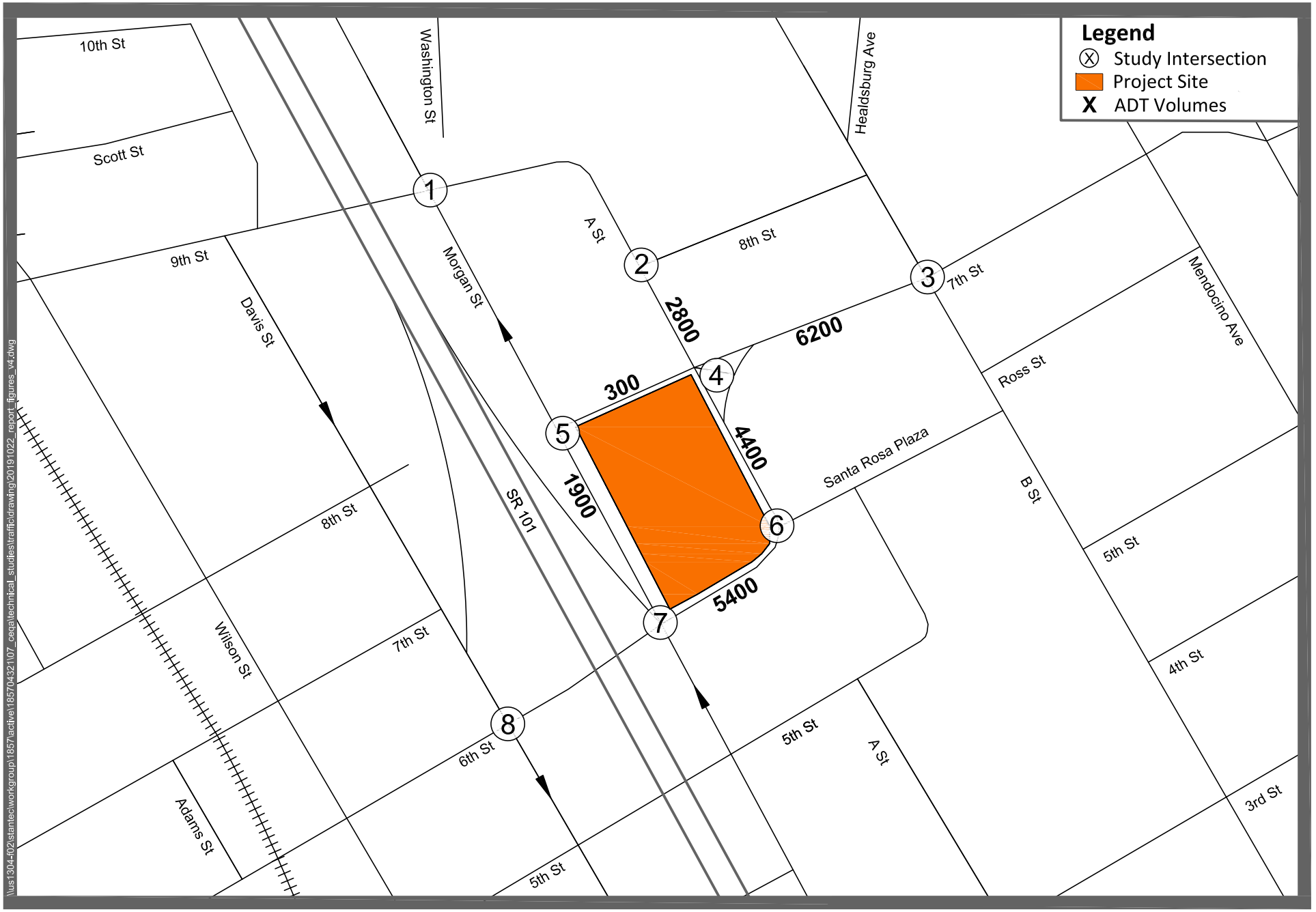

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Figure 2-2
Existing ADT Volumes
2.5

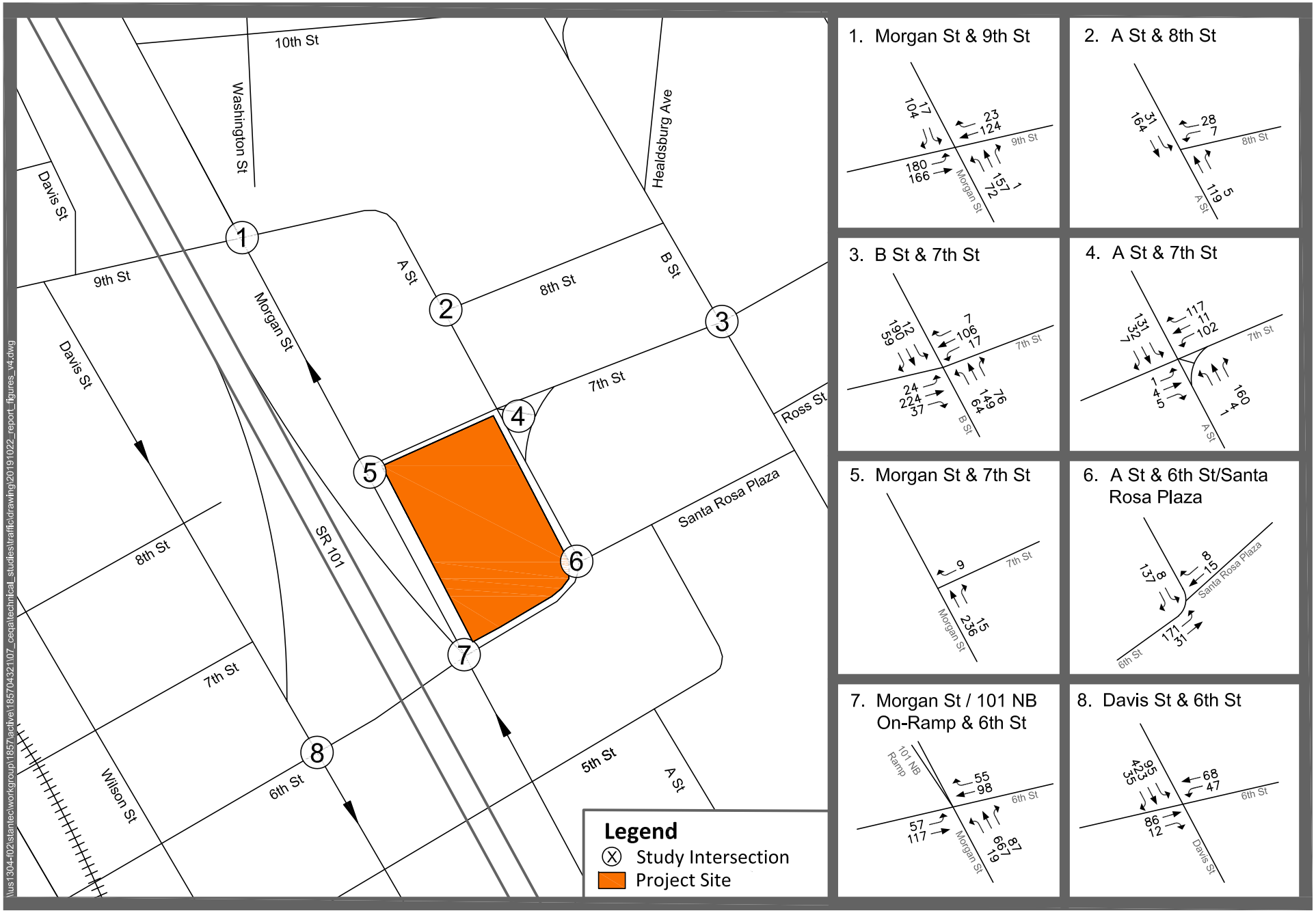

Figure 2-3
Existing AM Peak Hour Volumes
2.6

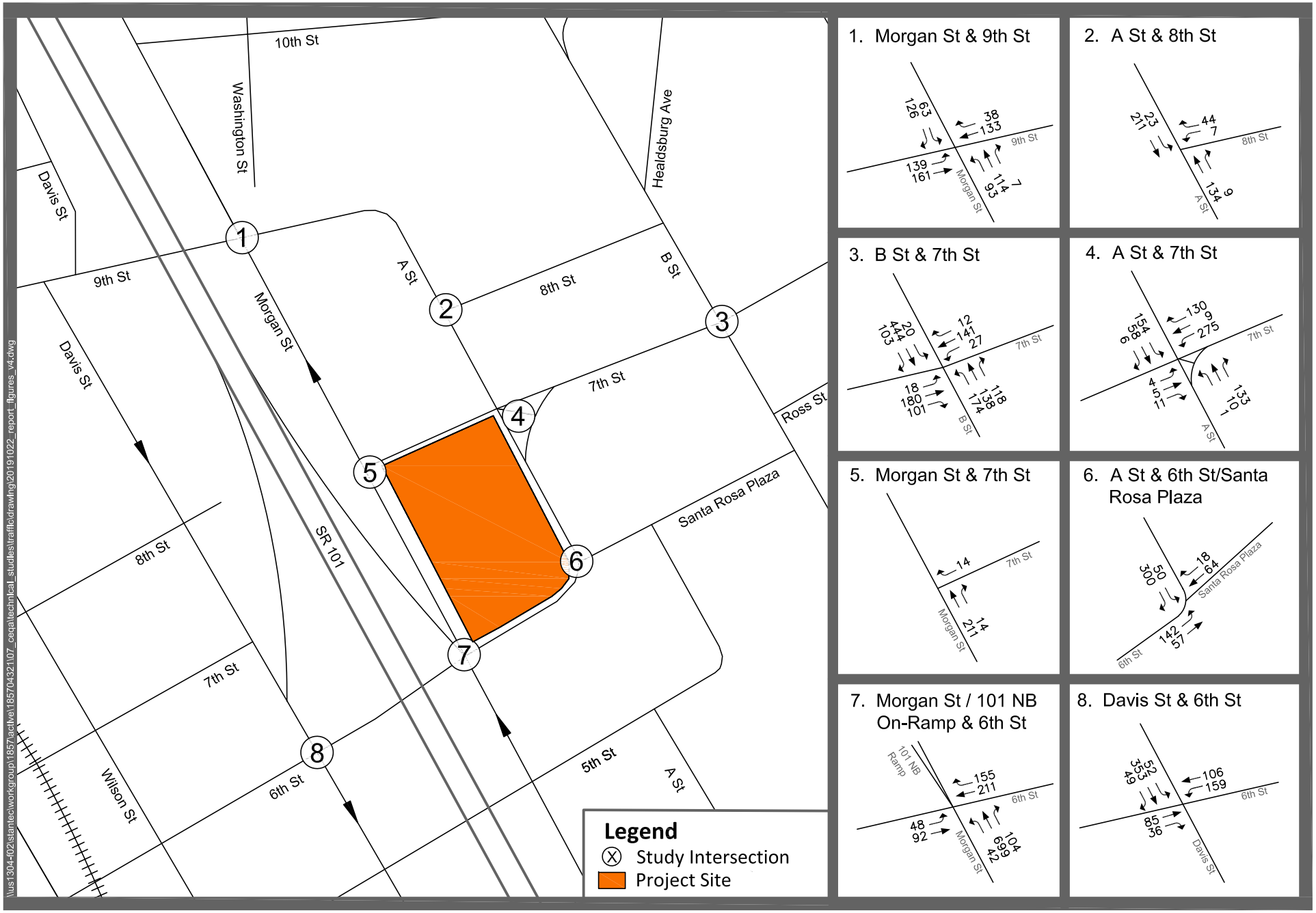

Figure 2-4
Existing PM Peak Hour Volumes
2.7

Table 2-2 Intersection LOS Summary – Existing Conditions

Intersection Name	Control Type	AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
1. Morgan St & Ninth St	AWSC	12.8	B	12.5	B
2. A St & Eighth St	TWSC	9.5	A	9.6	A
3. B St & Seventh St	Signal	9.1	A	9.4	A
*4a. A St & Seventh St	AWSC	7.9	A	8.4	A
*4b. A St & Seventh St	TWSC	11.0	B	13.3	B
5. Morgan St & Seventh St	TWSC	9.7	A	9.6	A
6. A St & Sixth St/Santa Rosa Plaza	TWSC	10.3	B	13.7	B
7. Morgan St/US 101 NB On-Ramp & Sixth St	Signal	7.8	A	9.7	A
8. Davis St & Sixth St	Signal	6.9	A	11.7	B

Note:
** Intersection #4 is analyzed as two separate stop-controlled intersections 4a & 4b*
LOS - Level of Service
Delay - Average Vehicle Delay (seconds)
AWSC - All-Way Stop Control
TWSC - Two-Way Stop Control

2.1.5 Active Transportation

Walking and biking are considered active transportation as they do not involve the use of motorized vehicles. Sidewalks, crosswalks, bike lanes and pedestrian signals at signalized intersections are examples of facilities that are necessary for acceptable pedestrian and bicycle accommodations.

City of Santa Rosa bicycle facilities consist of Class I shared-use paths, Class II bike lanes and Class III bike routes. In addition to the existing bikeways, the Santa Rosa Bicycle and Pedestrian Master Plan Update 2018 shows a future planned Class II B buffered bicycle lane and Class III B bicycle boulevard. In the project vicinity, a Class II bikeway is present on Morgan Street, Sixth Street and on A Street, south of Seventh Street. A Street, north of Seventh Street has a Class III Bike Route. The existing and future bicycle facilities within the study area are shown in Figure 2-6.

In the project vicinity, the signalized intersection of Morgan Street & Sixth Street has a marked crosswalk with pedestrian signal heads and push buttons on all legs except the west leg. The unsignalized A Street and Sixth Street intersection has a marked crosswalk on the north-leg only, and the A Street and Seventh Street intersection has a marked crosswalk on the west leg and north leg only. A sidewalk is present on both sides of each street that borders the Project site.

2.1.1 Collision History

The Statewide Integrated Traffic Records System (SWITRS) database and the Transportation Injury Mapping System (TIMS) was used to obtain the collision information in the vicinity of the Project area. Figure 2-7 shows the locations and the number of collisions of all reported traffic collisions that occurred during a two-year period between 2015 and 2017.

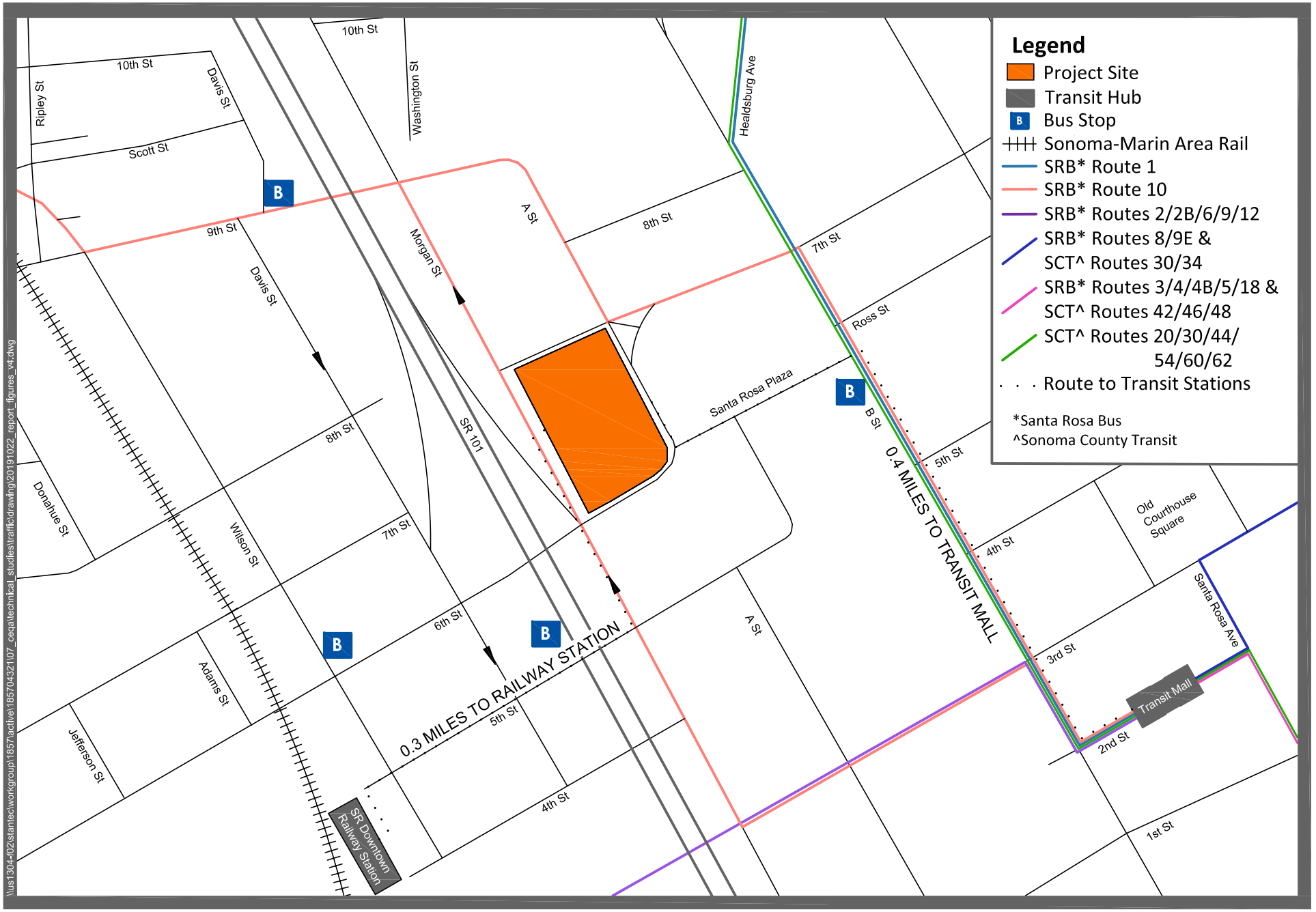

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Figure 2-5
Existing Transit Facilities
2.9

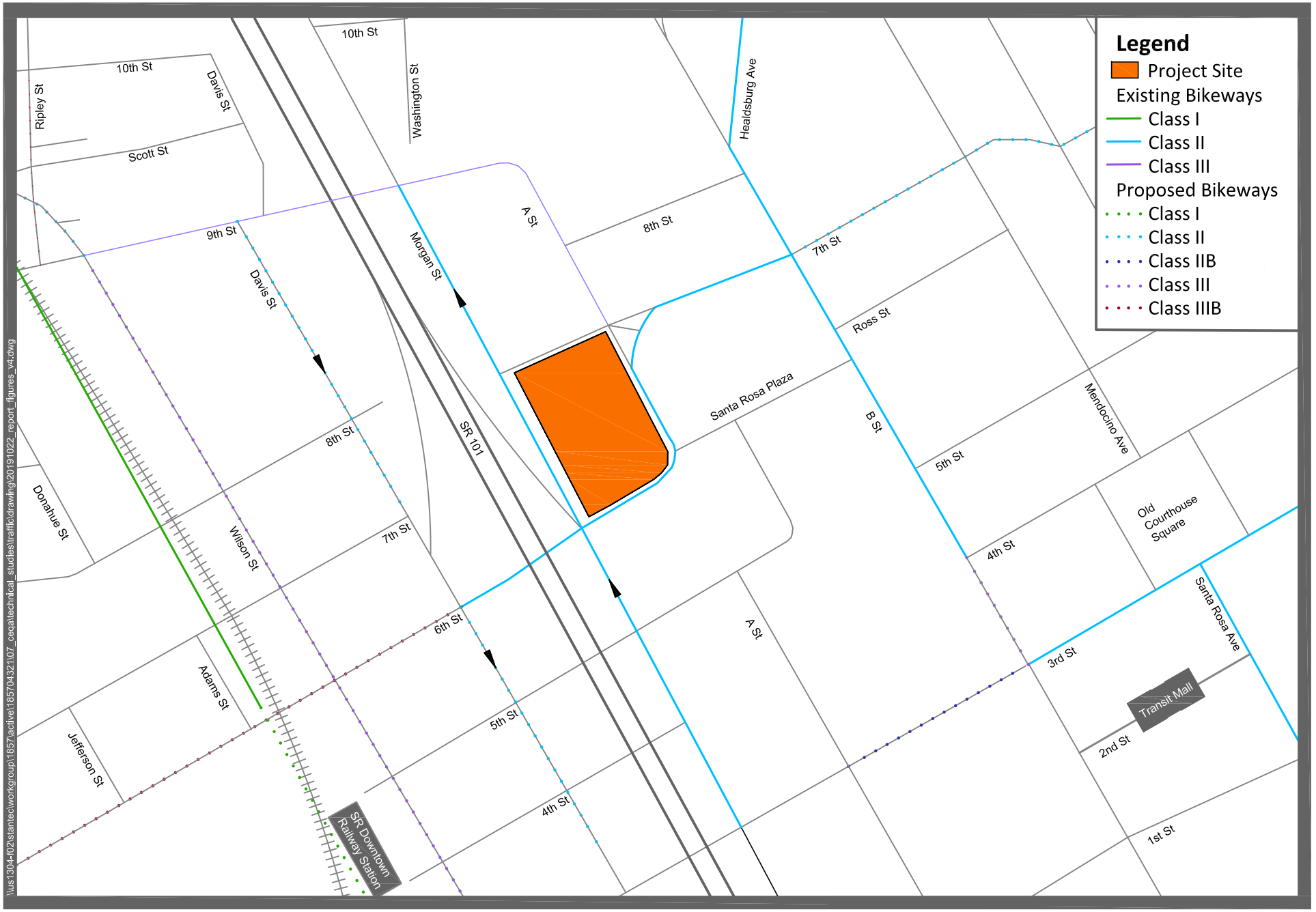

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Figure 2-6
Existing & Future Bicycle Infrastructure
2.10

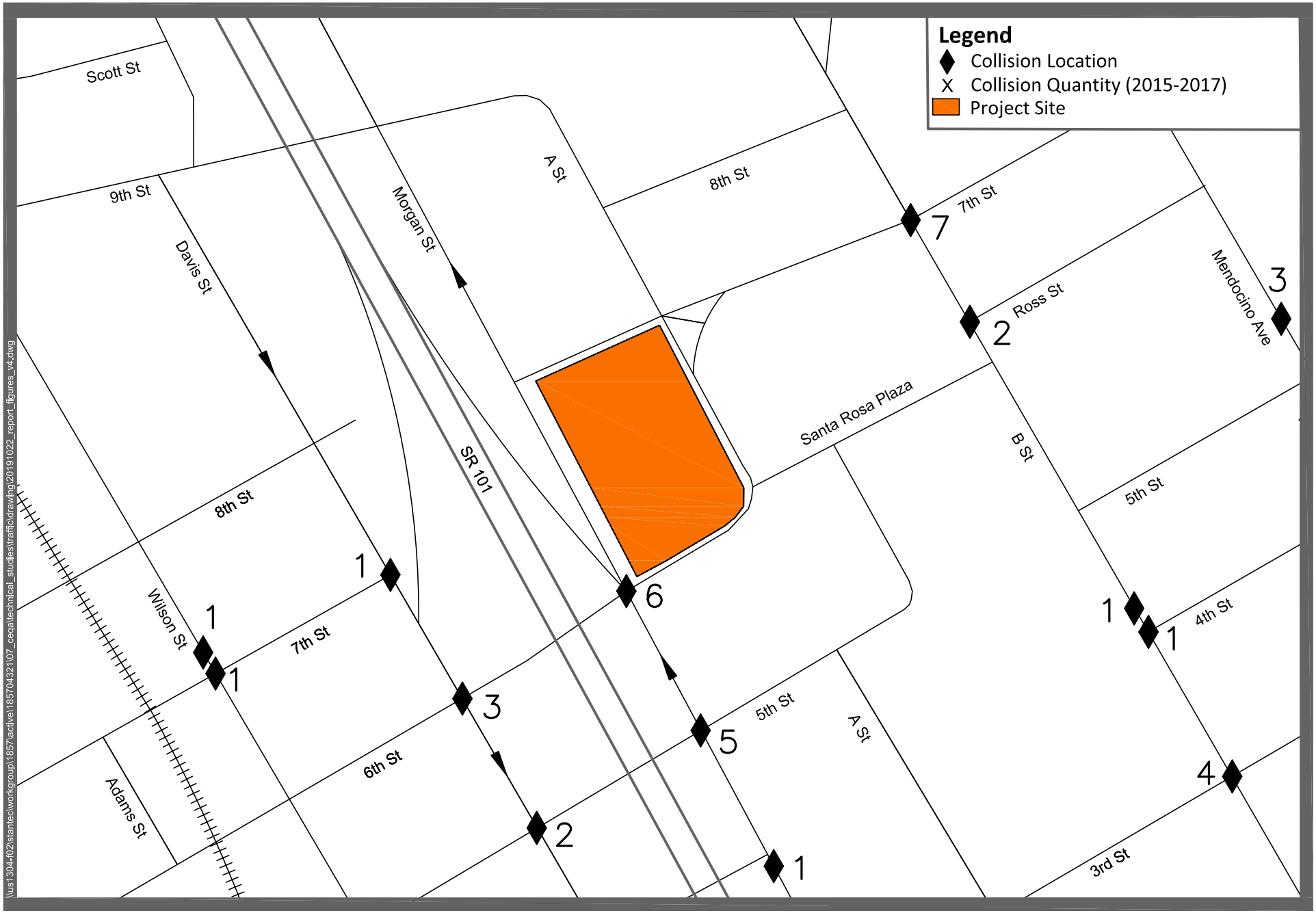

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Figure 2-7
Traffic Collisions
2.11

2.2 FUTURE CONDITIONS

A 2040 horizon year is utilized to evaluate future cumulative conditions, which represent future traffic conditions with the expected and allowable growth in the area. Traffic volume forecasts for future year cumulative conditions were derived from the traffic model forecast volumes provided by SCTA for the model base-year conditions (2010) and forecast year (2040). The SCTA model incorporates the socioeconomic data projections consistent with the City's General Plan and is considered to be representative of the cumulative growth resulting from all currently approved and planned projects. Project trips associated with the proposed Project were incrementally added to the modeled 2040 cumulative conditions to derive 2040 with-project conditions.

3.0 PROJECT DESCRIPTION

This section describes the Project in terms of its transportation characteristics. Trip generation is summarized and the distribution of the Project's trips on the adjoining roadway network is presented.

3.1 PROJECT TRIP GENERATION

As mentioned in Section 1.0, the proposed Project will have two components—Caritas Center and Caritas Homes. Caritas Center would combine a comprehensive family and homeless support services facility (approximately 46,587 square feet) to be operated by Catholic Charities Services. It currently has 65 employees working on-site and plans to increase to 220 employees with the proposed Project. It currently serves 603 clients per day and plans to serve 778 clients per day with the proposed Project. Caritas Homes is proposed to be built in two phases and would provide up to 126 permanent affordable multi-family rental housing units and two additional units for on-site managers to be operated by Burbank Housing.

Table 3-1 summarizes the anticipated trip generation of the proposed Project. The trip generation estimates for the Caritas Center's support services use and the Caritas Homes residential use were prepared using a combination of standardized Institute of Transportation Engineers (ITE) 10th Edition trip generation rates and custom rates derived for the unique uses of this site. The Project primarily serves clients who are homeless and many of them do not own vehicles. This is not a standard type of use that is accounted for in the ITE Trip Generation manual, therefore an ITE trip rate is not available for the trips to be generated by the Project's clients. Hence, the client trips were calculated based on the following assumptions.

- Approximately 50% of the daily clients own or use cars
- Vehicle occupancy of 1.2 persons per vehicle
- Sum of AM and PM peak hour volumes represent approximately 15 percent of the ADT

The Sonoma County Homeless Census & Survey Comprehensive Report 2018 (see Reference 7 in Section 1.5) shows that 24 percent of the Sonoma County unsheltered homeless live in vans, cars or RV's. To be conservative, an assumption noted above is made that approximately 50 percent of the daily clients own or use cars, with occupancy of approximately 1.2 persons per vehicle.

As shown in Table 3-1, the proposed Project is expected to generate approximately 2,066 ADT, with 197 trips occurring during the AM peak hour and 173 trips occurring during the PM peak hour. However, when taking credit for the existing trips generated by the current facility, the net new trips generated by the proposed Project would be approximately 1,350 ADT, with 120trips occurring during the AM peak hour and 125 trips occurring during the PM peak hour.

Table 3-1 Project Trip Generation Summary - Weekday Peak Hour Conditions

Trip Rates	Amount	Units	AM Peak Hour			PM Peak Hour			ADT
			In	Out	Total	In	Out	Total	
General Office Building (710)	--	Emp	0.31	0.06	0.37	0.08	0.32	0.40	3.28
Multifamily Housing Mid-Rise (221)	--	DU	0.09	0.27	0.36	0.27	0.17	0.44	5.44
Trip Generation									
Existing									
Catholic Charities Facilities	65	Emp	20	4	24	5	21	26	213
Clients	603	Client	44	9	53	4	18	22	503
Total Existing Trips			***64***	***13***	***77***	***9***	***39***	***48***	***716***
Proposed									
Caritas Center	220	Emp	68	14	82	18	70	88	722
Clients	778	Client	57	12	69	6	23	29	648
Total Caritas Center Trips			***125***	***26***	***151***	***24***	***93***	***117***	***1,370***
Caritas Homes Phase I	64	DU	6	17	23	17	11	28	348
Caritas Homes Phase II	64	DU	6	17	23	17	11	28	348
Total Carita Homes Trips	***128***	***DU***	***12***	***34***	***46***	***34***	***22***	***56***	***696***
Total Proposed Project Trips			137	60	197	58	115	173	2,066
Net New Trips			**73**	**47**	**120**	**49**	**76**	**125**	**1,350**

Trip Rate Source: Institute of Transportation Engineers (ITE), 10th Edition, 2017, with ITE code in parentheses
Clients Trip Rate Source: see discussion in Section 3.1
ADT - Average Daily Trips
DU - Dwelling Unit
Emp - Employee

Table 3-2 shows the proposed Project trip generation summary for the weekend. As shown in the table, the proposed Project is expected to generate 672 trips on a Saturday and 524 trips on a Sunday. From the information provided by the client on the existing facility, there are four employees working on a Saturday and generally no clients are served on a Saturday. However, for the proposed Caritas Center, the proposed number of employees is calculated by growing the existing number of employees using the weekday growth rate and to be conservative, a proportional number of clients is assumed using the weekday employee client ratio. There are negligible number of employees working currently on a Sunday and generally no clients are served on a Sunday based on the information provided by the client. Therefore, as shown in Table 3-2, the Proposed Project would generate 524 daily trips which are trips generated by Caritas Homes alone.

Table 3-2 Project Trip Generation Summary - Weekend

Trip Rates	Saturday			Sunday		
	Amount	**Units**	**ADT**	**Amount**	**Units**	**ADT**
General Office Building (710)	--	Emp	0.43	--	Emp	0.11
Multifamily Housing Mid-Rise (221)	--	DU	4.91	--	DU	4.09
Trip Generation						
Existing						
Catholic Charities Facilities	4	Emp	2	0	Emp	0
Clients	0	Client	0	0	Client	0
Total Existing Trips			***2***			***0***
Proposed						
Caritas Center	14	Emp	6	0	Emp	0
Clients	48	Client	40	0	Client	0
Total Caritas Center Trips			***46***			***0***
Caritas Homes Phase I	64	DU	314	64	DU	262
Caritas Homes Phase II	64	DU	314	64	DU	262
Total Carita Homes Trips	***128***	***DU***	***628***	***128***	***DU***	***524***
Total Proposed Project Trips			674			524
Net New Trips			**672**			**524**

Trip Rate Source: Institute of Transportation Engineers (ITE), 10th Edition, 2017, with ITE code in parentheses
Clients Trip Rate Source: see discussion in Section 3.1
ADT - Average Daily Trips
DU - Dwelling Unit
Emp - Employee

3.2 PROJECT TRIP DISTRIBUTION

Trip distribution patterns were derived based on the Project site location in relation to the surrounding uses while taking into account the proposed driveway locations, existing traffic flow patterns and engineering judgement. Approximately 30 percent of the project trips are expected to utilize the driveways on Morgan Street and 70 percent would utilize the driveways on A Street. The Project's trip distribution percentages are illustrated in Figure 3-1 and Figure 3-2 for the inbound and outbound directions, respectively. Project trips during the AM and the PM peak hours are shown in Figure 3-3 and Figure 3-4, respectively.

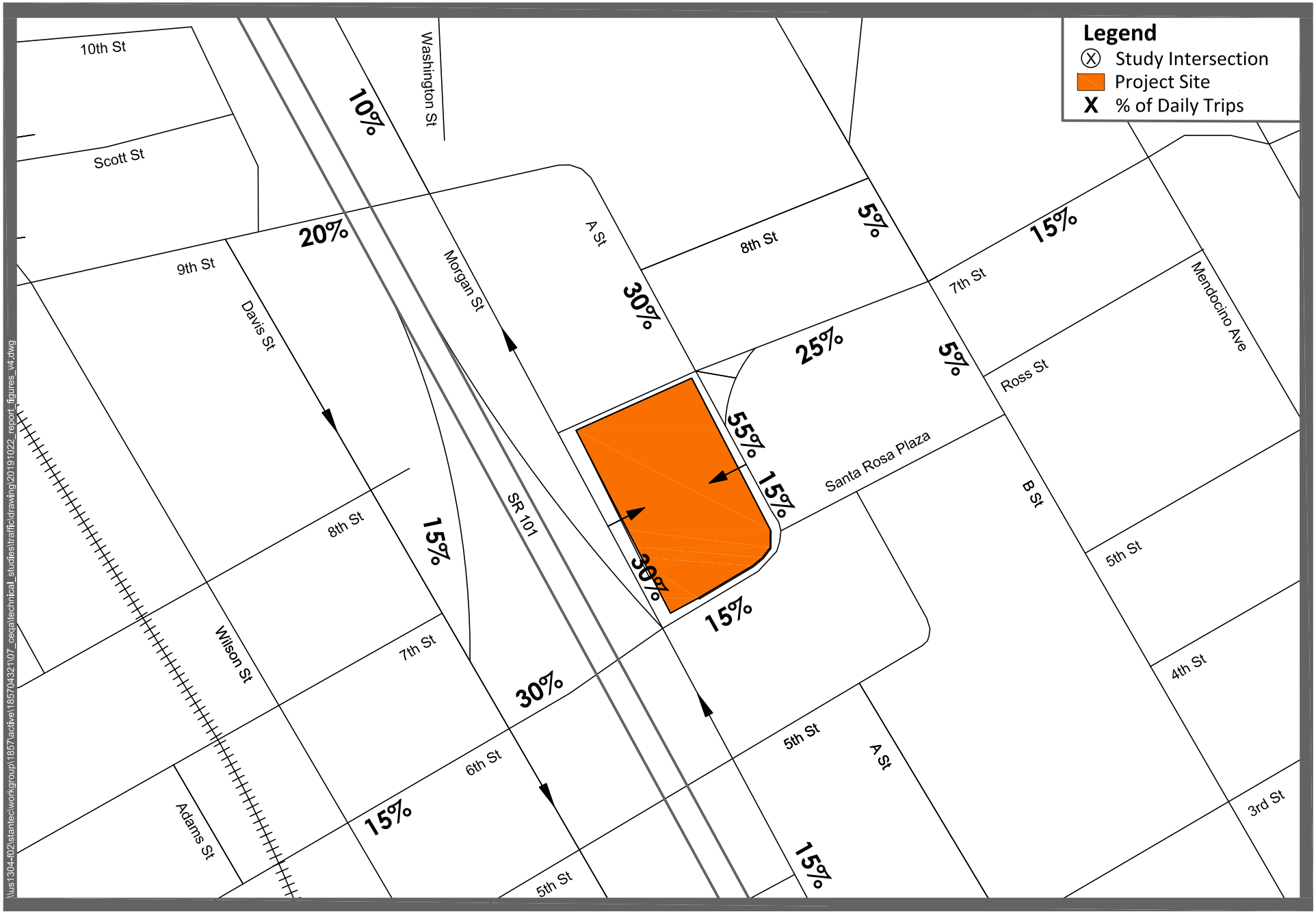

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Figure 3-1
Project Trip Distribution - Inbound
3.4

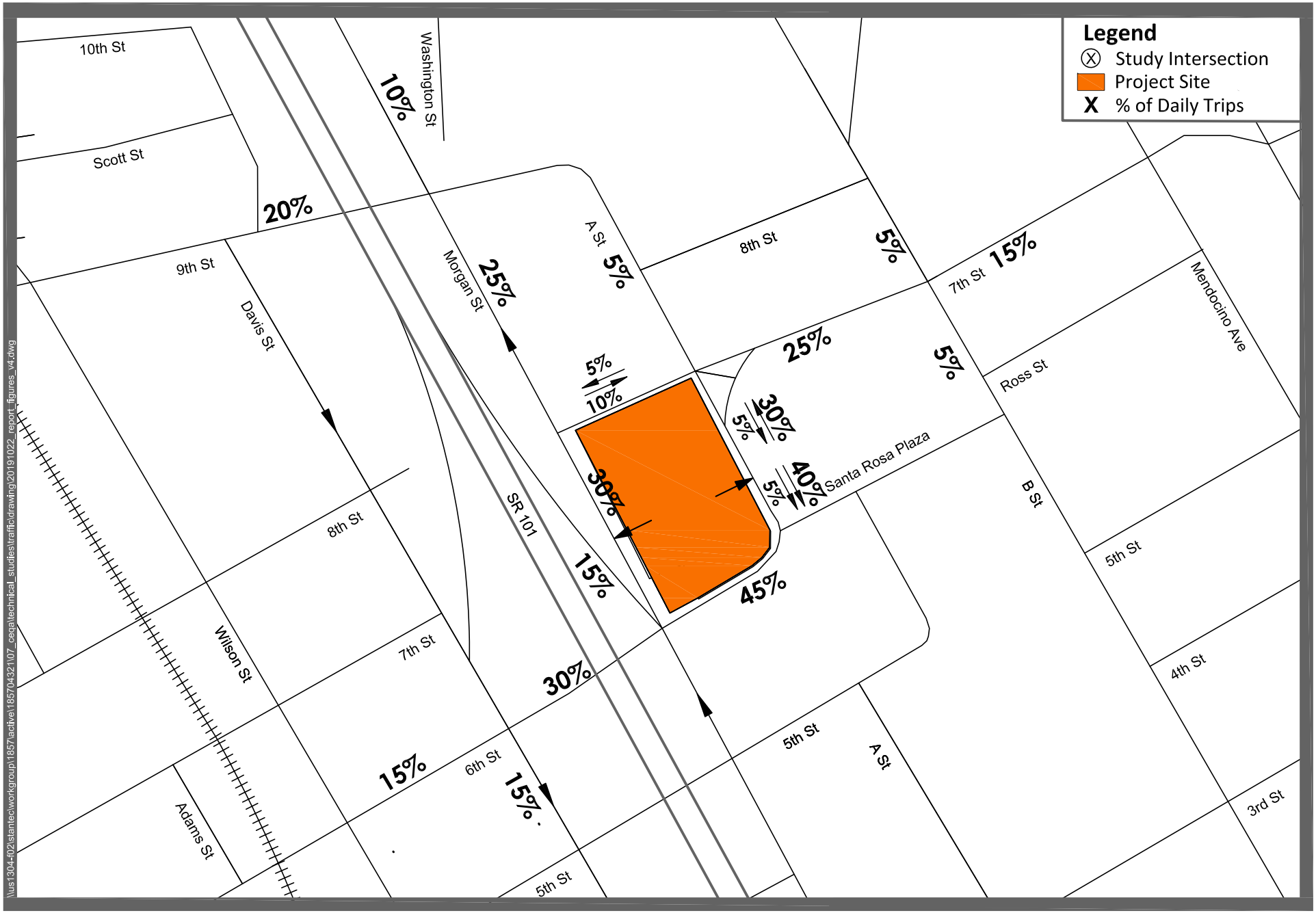

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Figure 3-2
Project Trip Distribution - Outbound
3.5

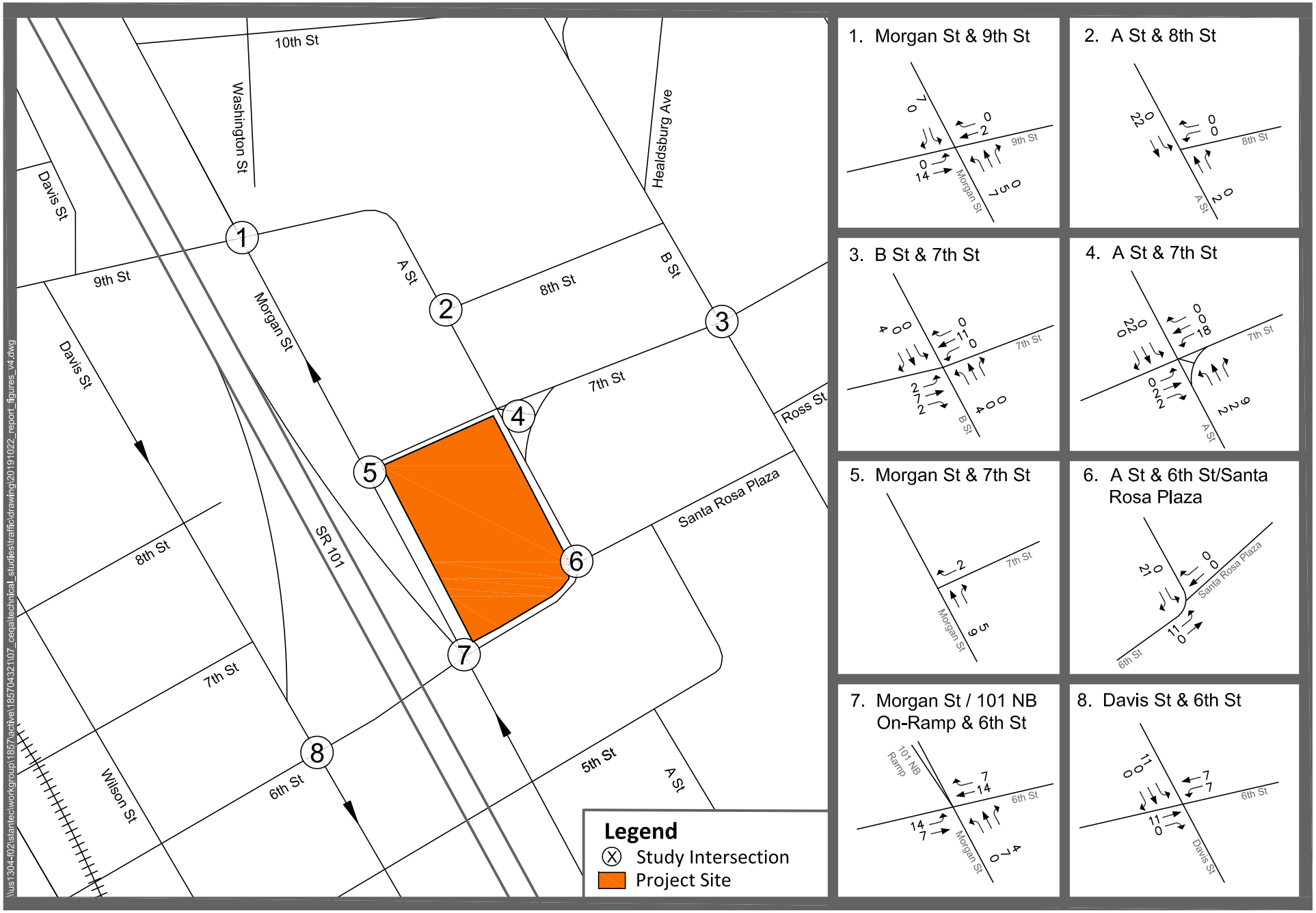

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Figure 3-3
Project-Only Trips - AM Peak Hour
3.6

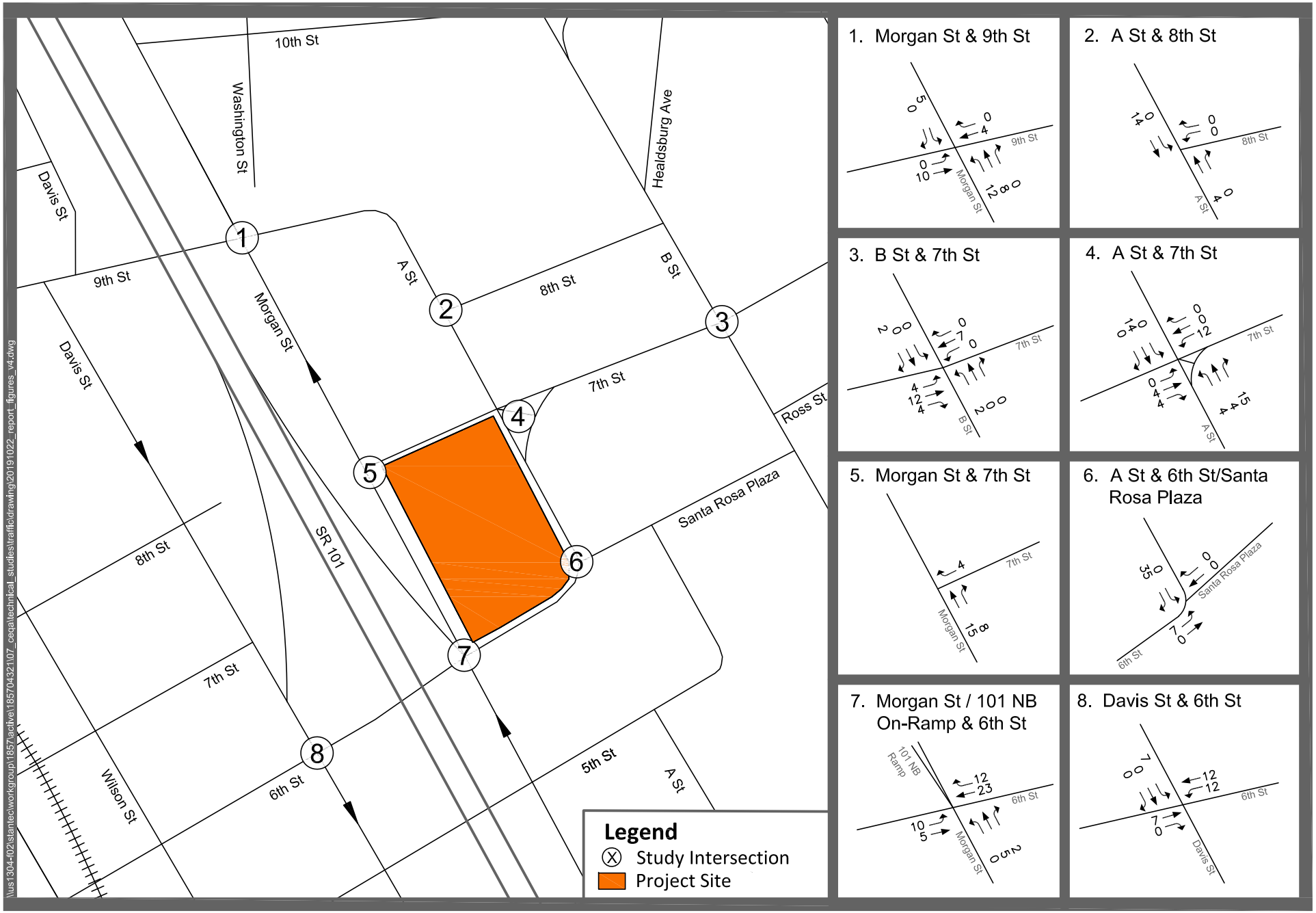

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Figure 3-4

Project-Only Trips - PM Peak Hour

3.7

4.0 TRAFFIC IMPACT ANALYSIS

This chapter presents the traffic impacts of the proposed Project for conditions under without-Project and with-Project scenarios. The following sections summarize the results of the analysis of the study area. Traffic impacts of the proposed Project are addressed using the criteria outlined in Chapter 1.0. As discussed in Section 2.2, a 2040 horizon year is utilized to evaluate long-range cumulative conditions.

4.1 EXISTING PLUS PROJECT ANALYSIS

This section provides an analysis of Project traffic impacts by comparing the existing traffic conditions to existing with-Project traffic conditions. For existing with-Project traffic conditions, Project trips shown in Figure 3-3 and Figure 3-4 were added to the existing traffic in order to identify potential traffic impacts. For purpose of this analysis, existing intersection lanes are assumed for existing plus project conditions.

Existing conditions with-Project ADT volumes are illustrated in Figure 4-1. The corresponding with-Project peak hour turning movement volumes are illustrated in Figure 4-2 and Figure 4-3, for AM and PM peak hour respectively.

Peak hour intersection LOS calculated using the existing conditions traffic volumes without and with-Project are summarized in Table 4-1, which provides a comparison between without-Project and the with-Project conditions. The table indicates that under the existing conditions, the study area intersections would continue to operate at LOS A or LOS B during both the AM and the PM peak hour and would not be significantly impacted by the proposed Project.

HCM delay methodology was used to analyze the signalized intersections and the stop-controlled intersections. Detailed LOS calculation worksheets are provided in Appendix B.

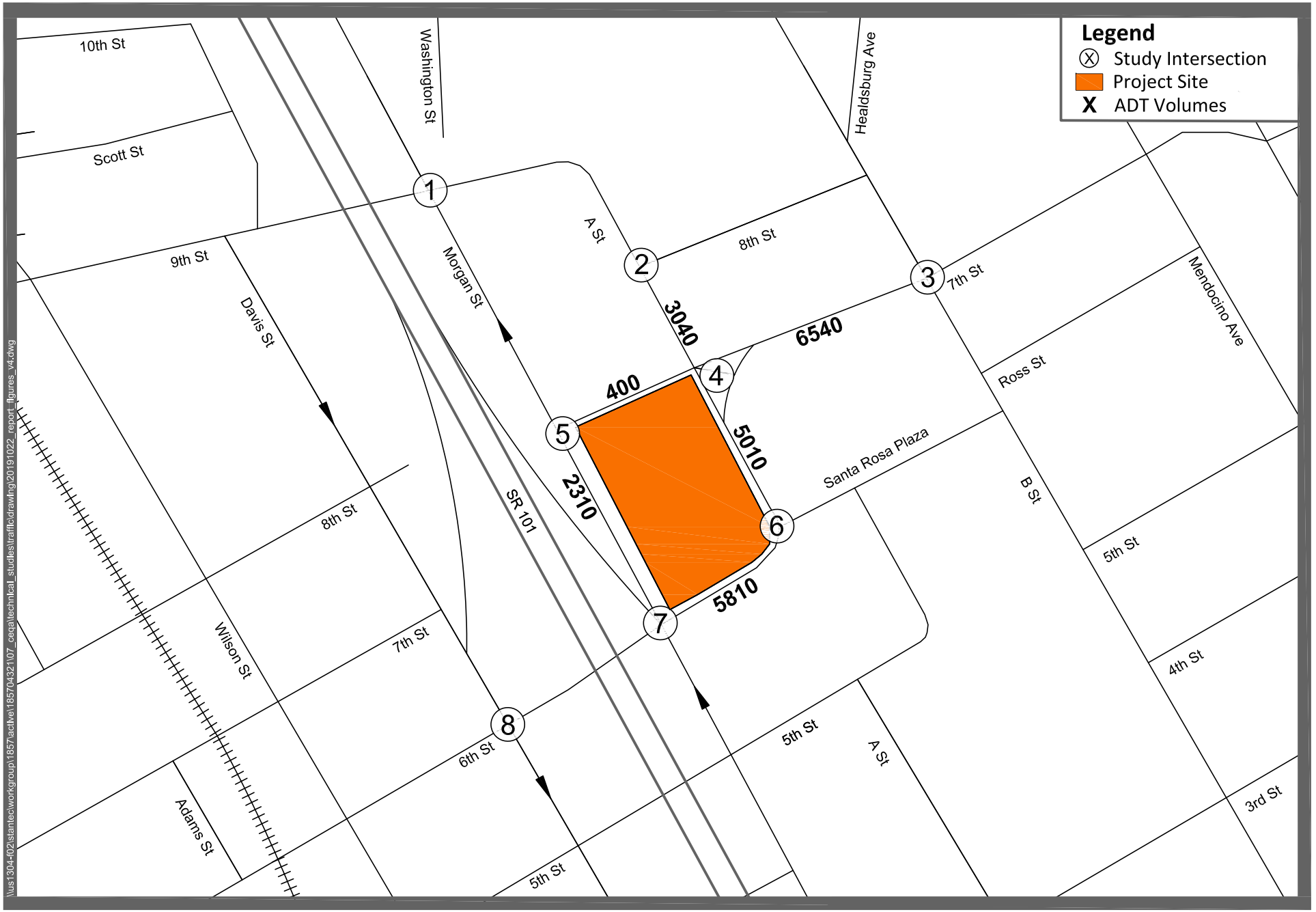

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Figure 4-1
Existing with Project - ADT
4.2

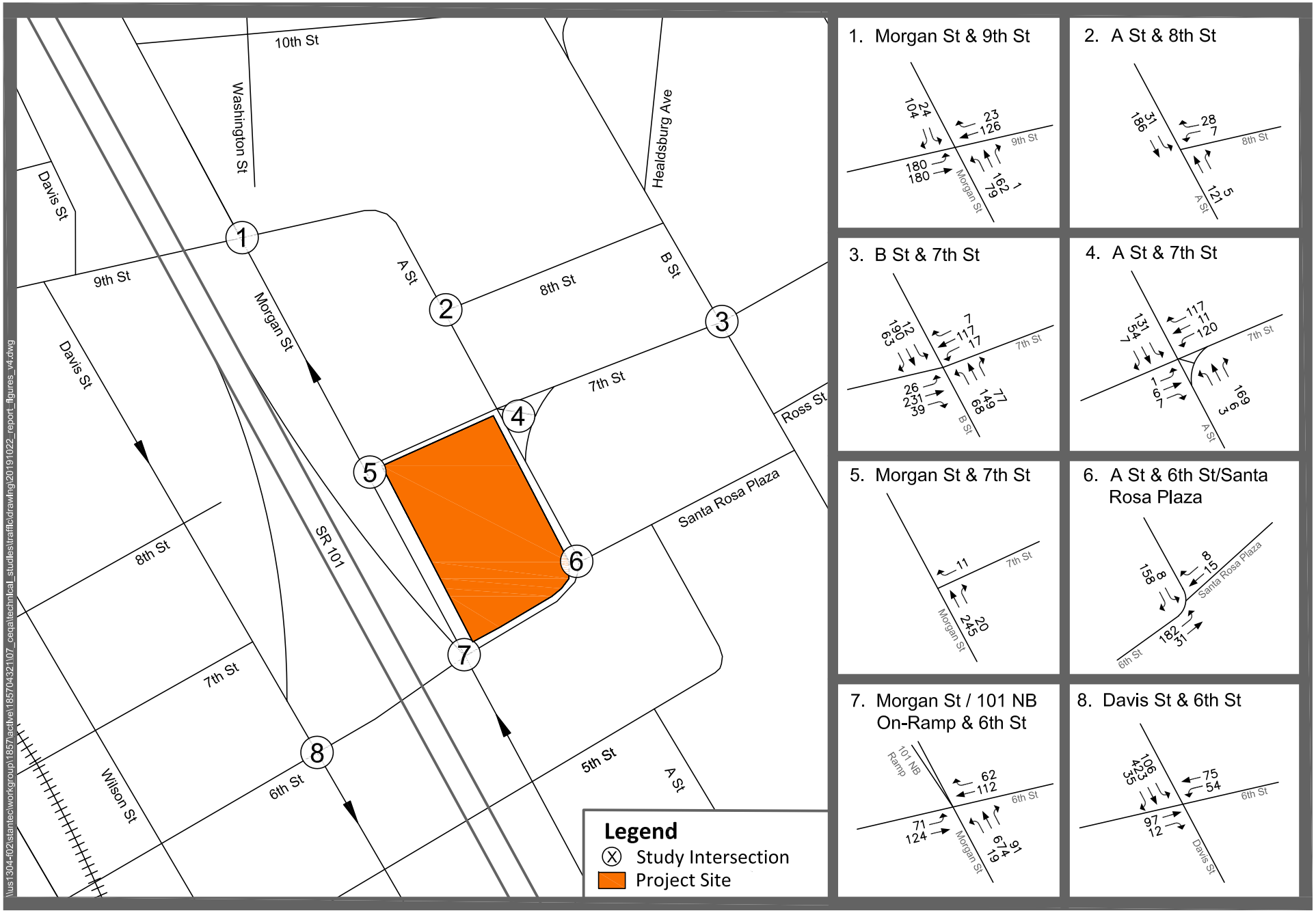

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Figure 4-2

Existing with Project - AM Peak Hour Volumes

4.3

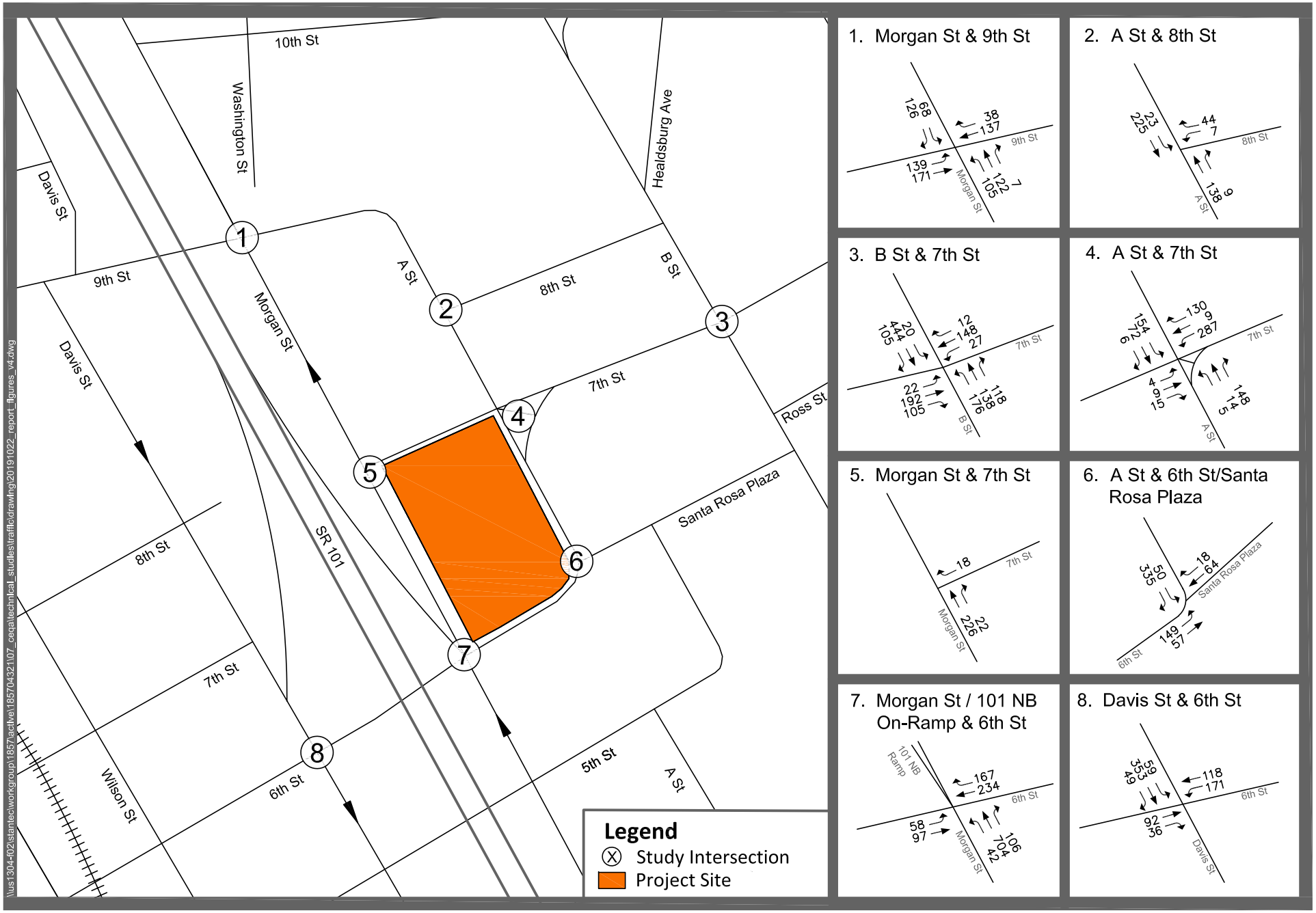

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Figure 4-3

Existing with Project - PM Peak Hour Volumes

4.4

Table 4-1 Intersection LOS Summary – Existing Conditions

Intersection Name	Traffic Control	Without-Project				With-Project				Increase	
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	AM	PM
1. Morgan St & Ninth St	AWSC	12.8	B	12.5	B	13.6	B	13.2	B	0.8	0.7
2. A St & Eighth St	TWSC	9.5	A	9.6	A	9.6	A	9.7	A	0.1	0.1
3. B St & Seventh St	Signal	9.1	A	9.4	A	9.3	A	9.8	A	0.2	0.4
*4a. A St & Seventh St	AWSC	7.9	A	8.4	A	8.1	A	8.6	A	0.2	0.2
*4b. A St & Seventh St	TWSC	11.0	B	13.3	B	11.2	B	14.0	B	0.2	0.7
5. Morgan St & Seventh St	TWSC	9.7	A	9.6	A	9.8	A	9.7	A	0.1	0.1
6. A St & Sixth St/Santa Rosa Plaza	TWSC	10.3	B	13.7	B	10.6	B	14.2	B	0.3	0.5
7. Morgan St/US 101 NB On-Ramp & Sixth St	Signal	7.8	A	9.7	A	8.1	A	10.7	B	0.3	1.0
8. Davis St & Sixth St	Signal	6.9	A	11.7	B	7.9	A	12.4	B	1.0	0.7

Note:
** Intersection #4 is analyzed as two separate stop-controlled intersections, 4a & 4b*
LOS – Level of Service
Delay – Average Vehicle Delay (seconds)
AWSC – All-Way Stop Control
TWSC – Two-Way Stop Control

4.2 CUMULATIVE CONDITIONS ANALYSIS

As previously discussed in Section 1.2, long range cumulative conditions traffic volumes were derived from the traffic model forecast volumes provided by SCTA for use in this analysis. A horizon year of 2040 is utilized to evaluate the cumulative conditions. Cumulative conditions without-Project and with-Project traffic are compared in this section to determine project impacts.

Cumulative conditions without-Project ADT volumes are illustrated in Figure 4-4. The cumulative conditions without-Project peak hour turning movement volumes are illustrated in Figure 4-5 and Figure 4-6, for AM and PM peak hour respectively. The cumulative conditions with-Project ADT volumes are illustrated in Figure 4-7, peak hour turning movement volumes are illustrated in Figure 4-8 and Figure 4-9, for AM and PM peak hour respectively.

Peak hour intersection LOS calculated from the cumulative conditions traffic volumes referenced above are summarized in Table 4-2, which provides a comparison between without-Project and the with-Project conditions. HCM delay methodology was used to analyze the signalized intersections and the stop-controlled intersection. Detailed LOS calculation worksheets are provided in Appendix B.

The table indicates that under cumulative conditions, the signalized study area intersections would operate at LOS B or better during AM and PM peak hour conditions except the intersection of B Street and Seventh Street would operate at LOS F during the PM peak hour. However, it is not considered a Project impact as the increase in average delay under with-Project conditions is not more than five seconds as defined by the significant impact threshold criteria and also due to the exception for intersections within the downtown area as outlined in Section 1.2.

Of the five unsignalized intersections, the A Street and Eighth Street intersection and the Morgan Street and Seventh Street intersection would operate at LOS B and LOS A, respectively under both AM and PM peak hour conditions. The Morgan Street and Ninth Street intersection would operate at LOS E under AM and PM peak hour conditions, the A Street and Seventh Street intersection would operate at LOS C during the AM peak hour and an LOS F during the PM peak hour, and the Sixth Street/Santa Rosa Plaza and A Street intersection would operate at an LOS B during the AM peak hour and LOS E during the PM peak hour conditions.

As noted above, the following unsignalized intersections are forecast to operate at LOS E or F and the increase in average delay under with-Project conditions is more than five seconds. However, these intersections are not considered significantly impacted due to the exception provided to the intersections within the downtown area as defined by the performance criteria outlined in section 1.2.

- Morgan Street and Ninth Street
- A Street and Seventh Street

Although not significantly impacted, feasible improvements that could provide better LOS to these intersections are provided in Section 4.4. Pursuant to the City's Guidance for the Preparation of Traffic Operational Analysis, mitigation measures are required to be provided to the extent possible at the intersection or roadway segment requested for exception.

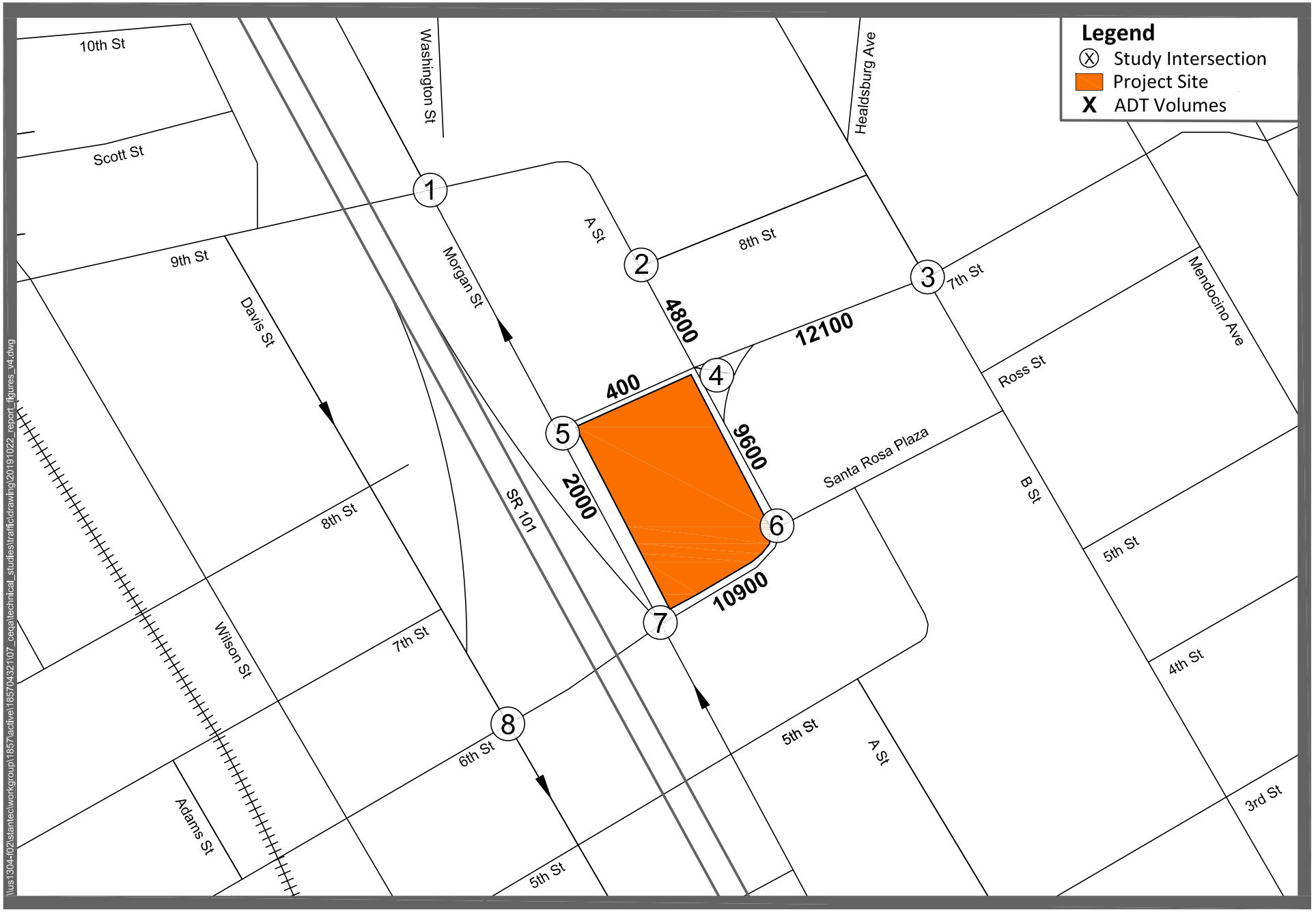

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Figure 4-4

Cumulative Conditions (2040) without-Project - ADT

4.7

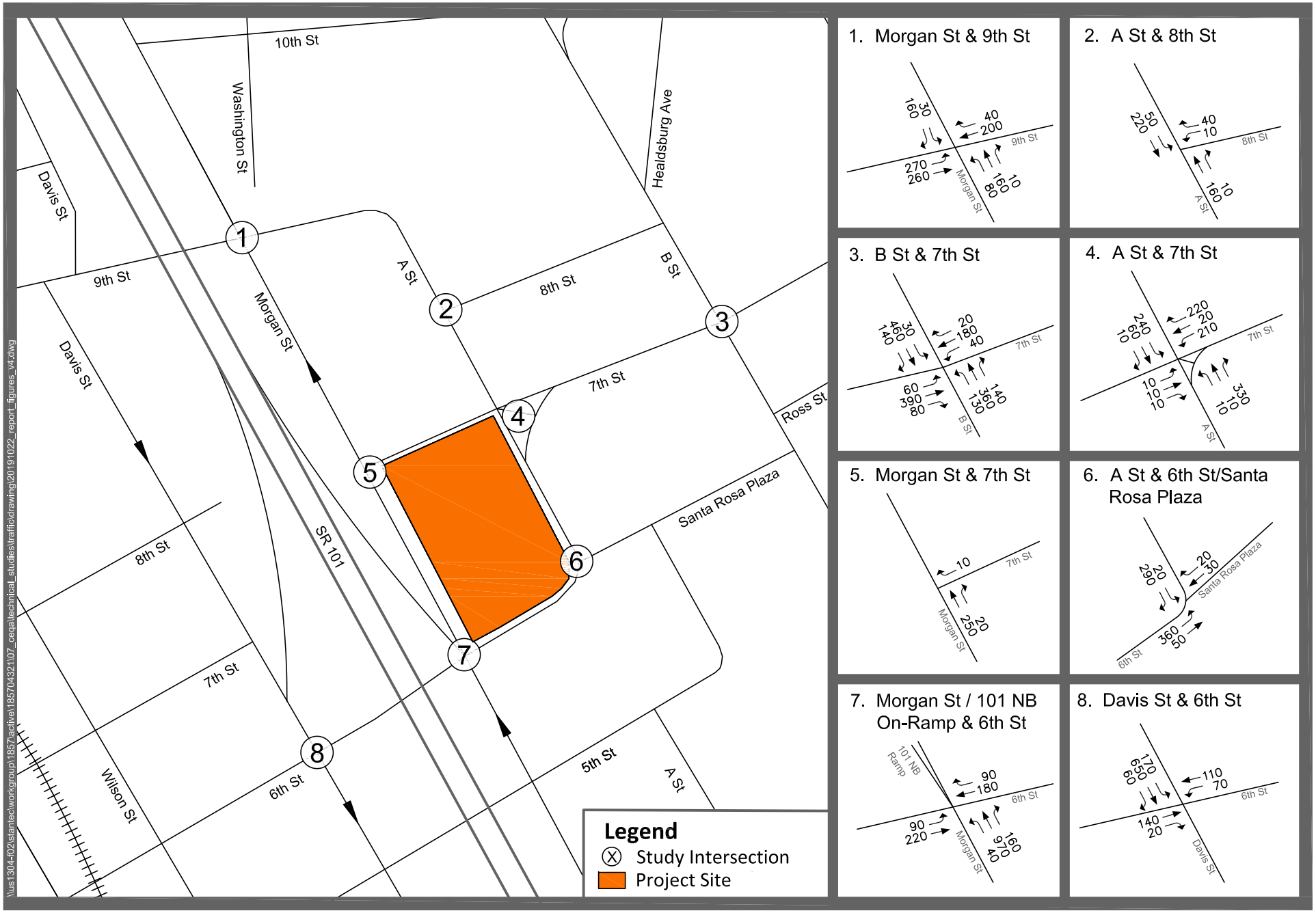

Figure 4-5

Cumulative Conditions (2040) Without Project - AM Peak Hour Volumes

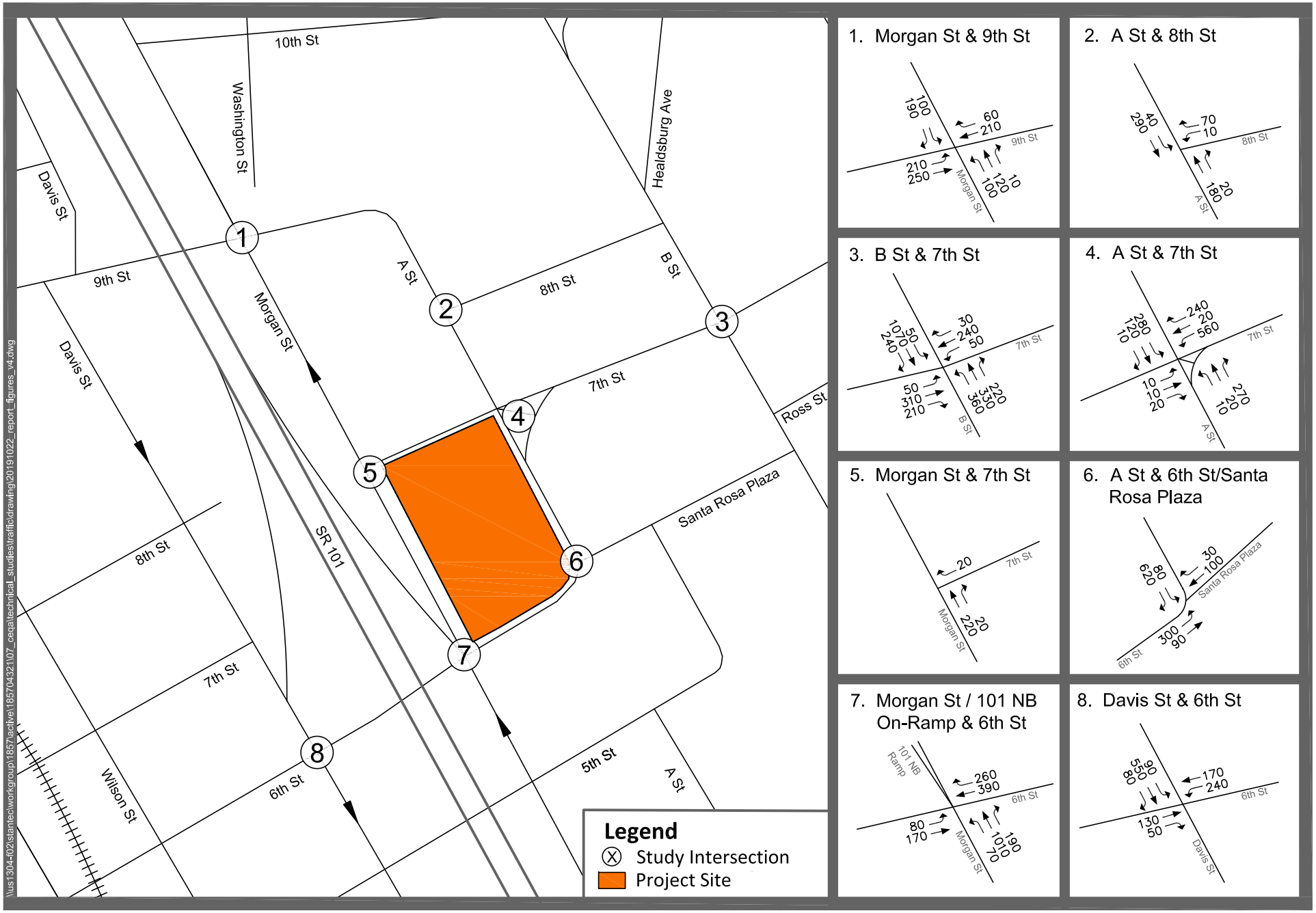

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Figure 4-6

Cumulative Conditions (2040) Without Project - PM Peak Hour Volumes

4.9

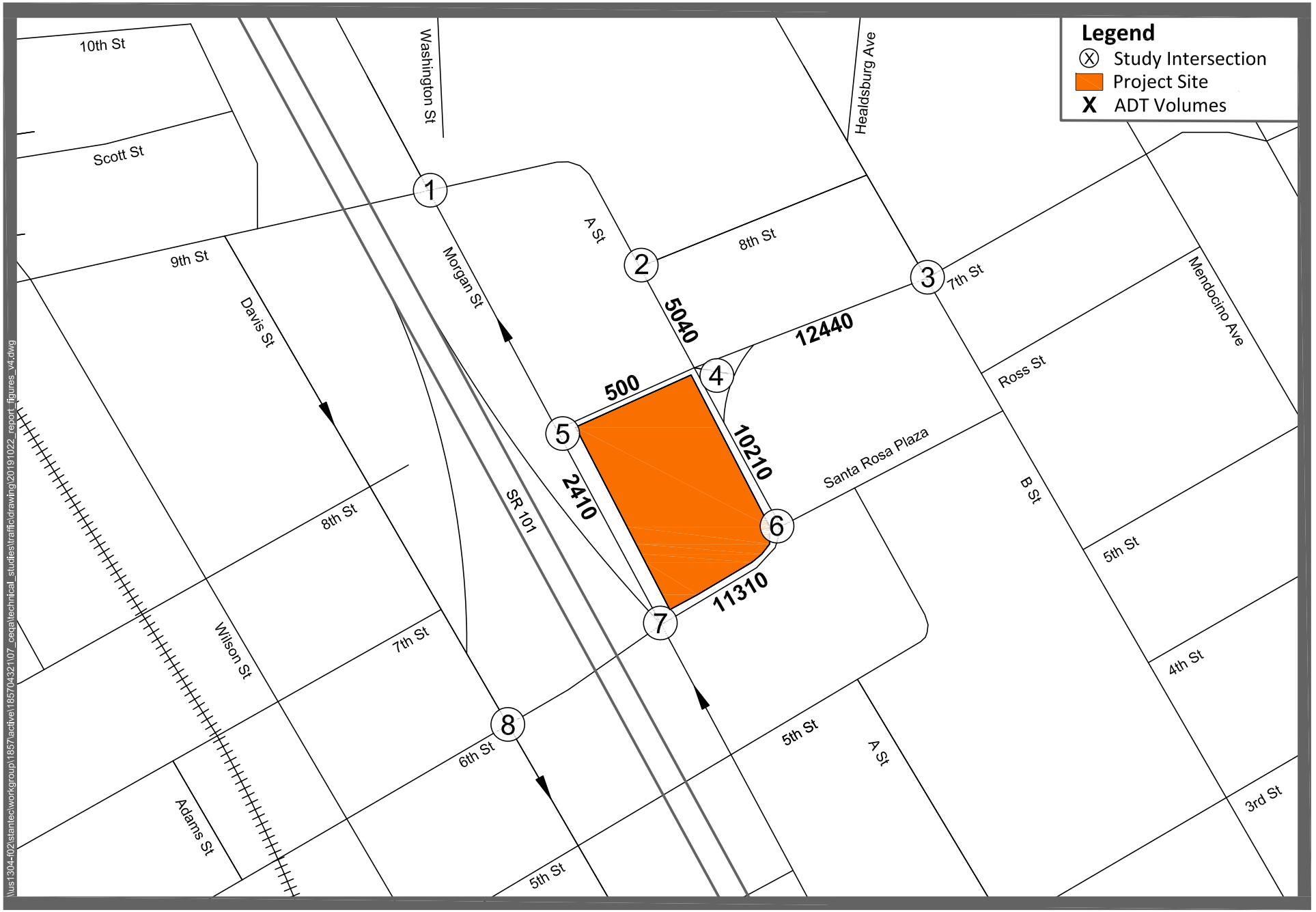

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Figure 4-7
Cumulative Conditions (2040) With-Project - ADT
4.10

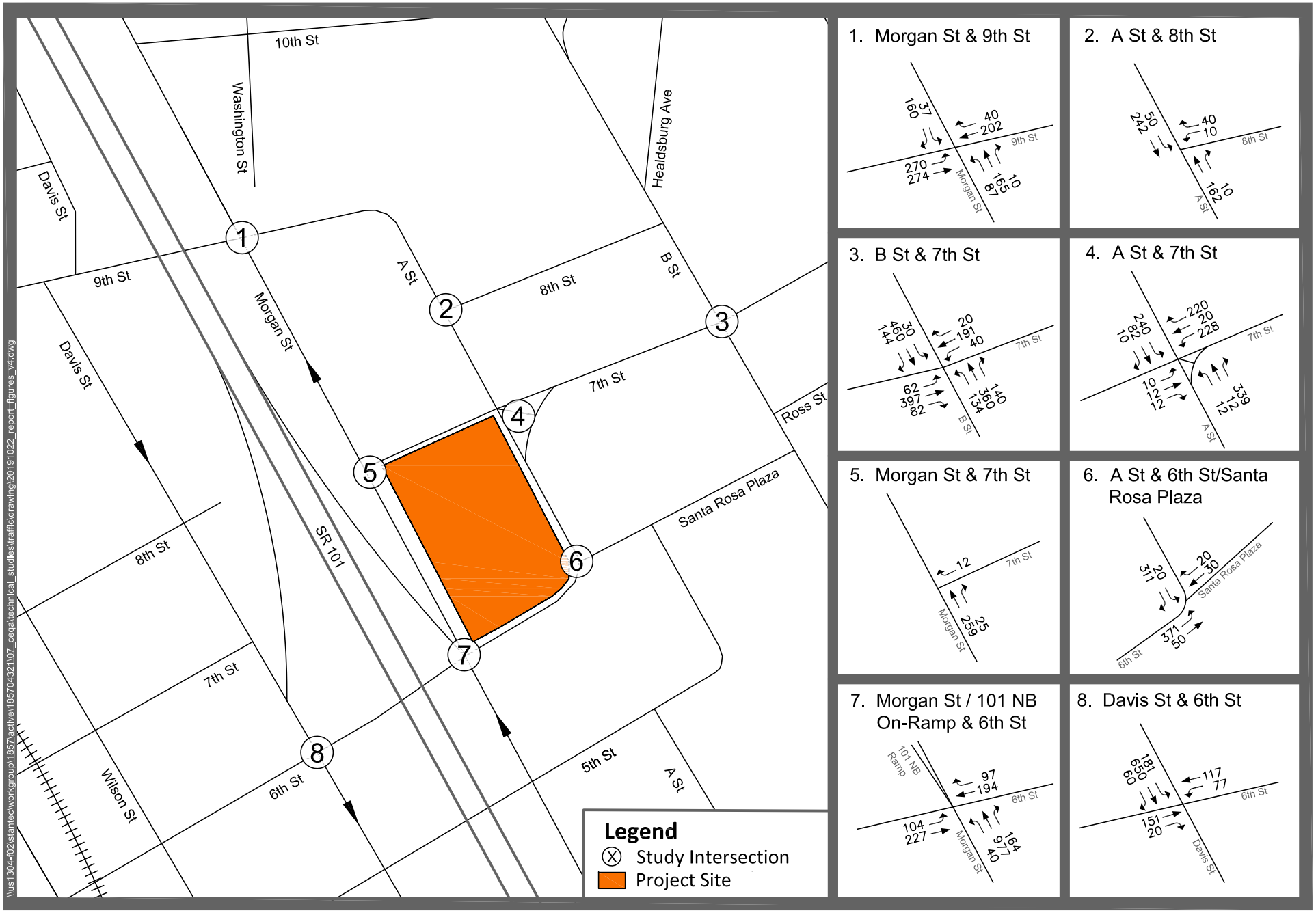


Figure 4-8

Cumulative Conditions (2040) With Project - AM Peak Hour Volumes

4.11

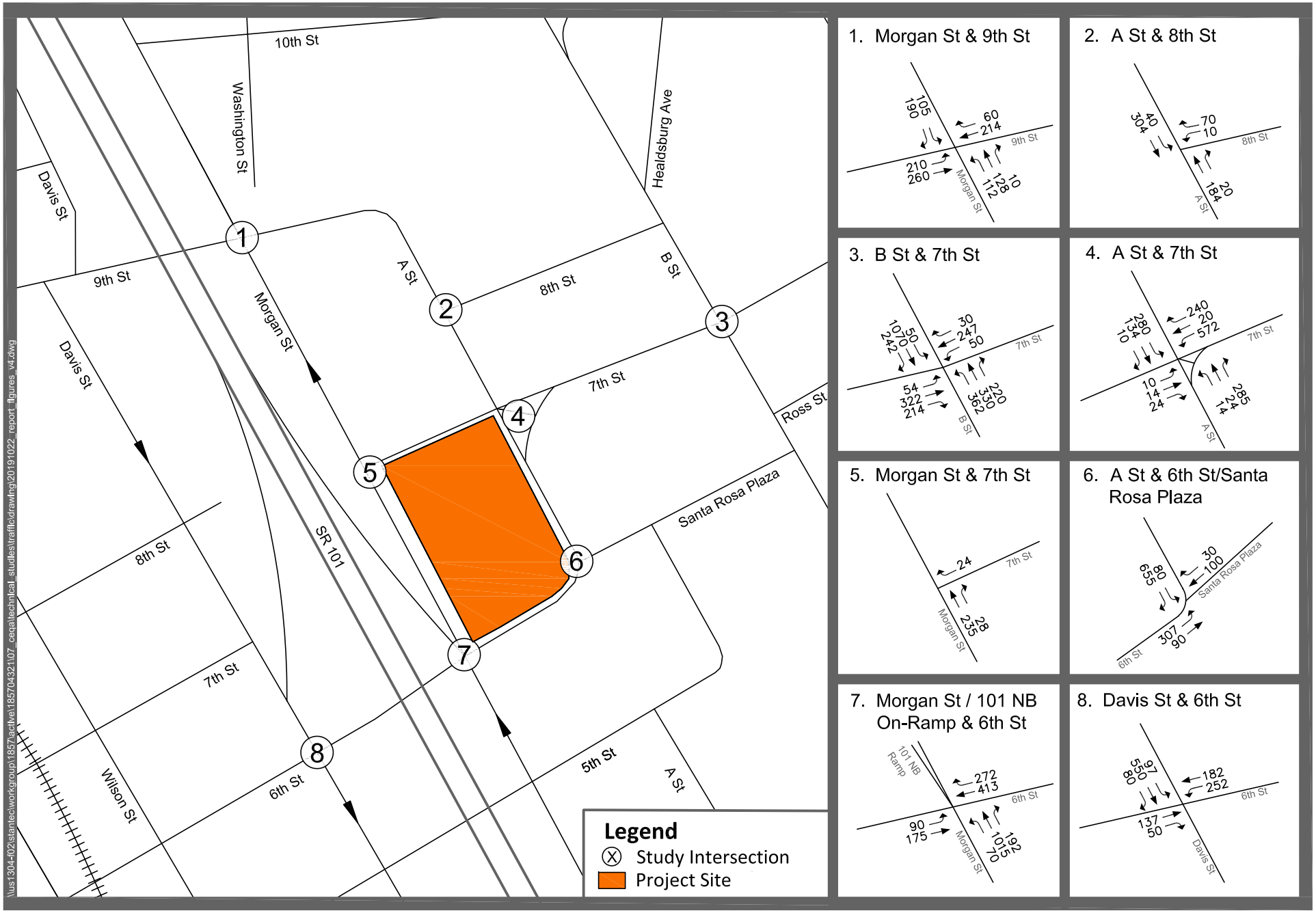


Figure 4-9

Cumulative Conditions (2040) With Project - PM Peak Hour Volumes

4.12

Table 4-2 Intersection LOS Summary – Cumulative Conditions (2040)

Intersection Name	Traffic Control	Without-Project				With-Project				Increase	
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	AM	PM
1. Morgan St & Ninth St	AWSC	40.1	E	38.9	E	47.4	E	43.8	E	7.3	4.9
2. A St & Eighth St	TWSC	10.2	B	10.4	B	10.3	B	10.5	B	0.1	0.1
3. B St & Seventh St	Signal	14.7	B	98.2	F	15.1	B	102.3	F	0.4	4.1
*4a. A St & Seventh St	AWSC	10.1	B	12.4	B	10.5	B	12.8	B	0.4	0.4
*4b. A St & Seventh St	TWSC	22.2	C	102.4	F	23.9	C	126.8	F	1.7	24.4
5. Morgan St & Seventh St	TWSC	9.8	A	9.7	A	9.9	A	9.8	A	0.1	0.1
6. A St & Sixth St/Santa Rosa Plaza	TWSC	14.0	B	40.9	E	14.4	B	45.8	E	0.4	4.9
7. Morgan St/US 101 NB On-Ramp & Sixth St	Signal	12.4	B	17.2	B	13.4	B	18.4	B	1.0	1.2
8. Davis St & Sixth St	Signal	9.4	A	16.9	B	9.9	A	18.2	B	0.5	1.3

Note:
** Intersection #4 is analyzed as two separate stop-controlled intersections, 4a & 4b*
LOS – Level of Service
Delay – Average Vehicle Delay (seconds)
AWSC - All-Way Stop Control
TWSC - Two-Way Stop Control

4.2.1 Seventh Street Partial Closure

The City's Northern Downtown Pedestrian Linkages Study (2006) identifies the closure of Seventh Street between A Street and the alley to the immediate west of A Street to create the Museum Square Plaza. This section analyzes the partial closure of Seventh Street with a roundabout under cumulative conditions. The cumulative conditions traffic volumes presented in the previous section were redistributed based on the closed section of roadway and LOS calculated for the affected intersections.

Peak hour LOS calculated using the redistributed traffic volumes are summarized in Table 4-3, which provides a comparison between without-Project and with-Project conditions with-the Seventh Street partial closure conditions. The A Street and Seventh Street intersection and the A Street and Sixth Street/Santa Rosa Plaza intersection were analyzed for conditions without a roundabout and with a roundabout.

HCM delay methodology was used to analyze the signalized intersections and the stop-controlled intersections. Roundabout analysis was conducted using SIDRA software. Detailed LOS calculation worksheets are provided in Appendix B.

The table shows that with the partial closure of Seventh Street, the study area intersections would operate at LOS C or better except the following intersections, which are forecast to operate at LOS E or LOS F with partial closure of Seventh Street:

- Morgan Street and Ninth Street
- A Street and Seventh Street (PM) - without roundabout
- A Street & Sixth Street/Santa Rosa Plaza (PM) - without roundabout

Table 4-3 Intersection LOS Summary – Seventh Street Partial Closure

Intersection Name	Traffic Control	Without-Project				With-Project With Seventh Street Partial Closure				Increase	
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	AM	PM
1. Morgan St & Ninth St	AWSC	40.1	E	38.9	E	54.7	F	54.5	F	14.6	15.6
2. A St & Eighth St	TWSC	10.2	B	10.4	B	10.5	B	10.8	B	0.3	0.4
3. B St & Seventh St	Signal	14.7	B	98.2	F	15.1	B	102.3	F	0.4	4.1
*4a. A St & Seventh St	AWSC	10.1	B	12.4	B	10.3	B	12.5	B	0.2	0.1
*4b. A St & Seventh St	TWSC	22.2	C	102.4	F	22.6	C	113.6	F	0.4	11.2
	Roundabout	-	-	-	-	11.7	B	16.6	B	-10.5	-85.8
5. Morgan St & Seventh St	TWSC	9.8	A	9.7	A	0.0	A	0.0	A	-9.8	-9.7
6. A St & Sixth St/Santa Rosa Plaza	TWSC	14.0	B	40.9	E	14.5	B	47.3	E	0.5	6.4
	Roundabout	-	-	-	-	10.8	B	10.9	B	-3.2	-30.0
7. Morgan St/US 101 NB On-Ramp & Sixth St	Signal	12.4	B	17.2	B	13.5	B	18.7	B	1.1	1.5
8. Davis St & Sixth St	Signal	9.4	A	16.9	B	10.0	B	17.7	B	0.6	0.8

Note:
** Intersection #4 is analyzed as two separate stop-controlled intersections, 4a & 4b*
LOS – Level of Service
Delay – Average Vehicle Delay (seconds)
AWSC - All-Way Stop Control
TWSC - Two-Way Stop Control

As shown in the table and mentioned above, the intersection of A Street and Seventh Street and the intersection of A Street and Sixth Street/Santa Rosa Plaza are forecast to operate at LOS F and LOS E respectively, during the PM peak hour with the partial closure of Seventh Street. However, with the installation of a roundabout, the intersections are forecast to operate at an LOS B under AM and PM peak hour conditions.

While not a significant impact due to the intersection's location in the downtown area, feasible improvements that could improve LOS at the Morgan Street and Ninth Street intersection is presented in the following Chapter.

4.3 VEHICLE MILES TRAVELED (VMT)

Senate Bill 743 (Steinberg, 2013) required changes to the guidelines implementing CEQA Guidelines (Cal. Code Regs., Title 14, Div. 6, Ch. 3, § 15000 et seq.) regarding the analysis of transportation impacts. The Office of Planning and Research proposed changes to the CEQA Guidelines that identify vehicle miles traveled (VMT) as the most appropriate metric to evaluate a project's transportation impacts. Regulatory changes to the CEQA Guidelines that implement SB 743 were approved on December 28, 2018. July 1, 2020 is the statewide implementation date and agencies may opt-in use of new metrics prior to that date. The City of Santa Rosa has not adopted new guidelines or thresholds of significance for evaluating VMT. Therefore, the analysis here is limited to a qualitative evaluation.

The Project site is a 0.3 mile walk to the Santa Rosa Downtown Railway Station and 0.4 mile walk to the Transit Mall on Second Street. The project site is also well served by bus service. CEQA Guidelines Section 15064.3, subdivision (b)(1), states that "(g)enerally, projects within one-half mile of either an existing major transit stop, or a stop along an existing high quality transit corridor should be presumed to cause a less than significant transportation impact". Appendix M of the CEQA Guidelines defines a "major transit stop" as "a site containing an existing rail transit station". Based on the location of the project site, which is less than 0.5 miles from the Santa Rosa Downtown Railway Station and the Transit Mall, the project can be presumed to cause a less than significant transportation impact based on VMT.

4.4 POTENTIAL INTERSECTION IMPROVEMENTS

As Shown in Section 4.1, above, the Project does not result in a significant impact under existing plus Project conditions, therefore no Project mitigation is required.

As shown in Section 4.2, above, no intersections are significantly impacted under cumulative conditions. However, the following intersections would operate at LOS E or LOS F under long-range cumulative conditions:

- Morgan Street & Ninth Street
- A Street & Seventh Street
- A Street & Sixth Street/Santa Rosa Plaza (with Seventh Street Partial Closure)

At the intersection of Morgan and Ninth Street listed above that is forecast to operate at LOS E under the cumulative conditions scenario, replacing the existing stop sign with a traffic signal would improve conditions to LOS B. A signal warrant analysis conducted for the intersection has determined that the traffic volumes meet the peak hour warrant criteria for cumulative conditions both without and with the Project (signal Warrant analysis is provided in Appendix C). Installation of a traffic signal would improve the intersection to operate at LOS B under the cumulative conditions as shown in Table 4-4.

Table 4-4 Intersection LOS Summary – Cumulative Conditions (2040) with Improvements

Intersection Name	Cumulative without Project				Cumulative with Project with Improvements				Net Change with Mitigation	
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	AM	PM
Morgan St & Ninth St	40.1	E	38.9	E	18.4 (19.9)	B (B)	17.1 (19.5)	B (B)	-21.7 (-20.2)	-21.8 (-19.4)
Note: Values in parentheses represent conditions with the partial closure of Seventh Street										

The City of Santa Rosa's Downtown Station Area Specific Plan 2007 identifies development guidelines to install traffic calming roundabouts at the intersection of A Street and Seventh Street, and at the intersection of A Street and Sixth Street/Santa Rosa Plaza. To determine the feasibility of installing a roundabout at these intersections, a roundabout analysis was conducted using SIDRA software and it was determined that a roundabout installation would improve operations at the intersections under cumulative conditions as shown in Table 4-5, with each

intersection operating at LOS B or better. Detailed LOS calculation worksheets are provided in Appendix B. Table 4-6 lists the improvements that would improve LOS in the cumulative conditions setting.

Table 4-5 Intersection LOS Summary – Cumulative Conditions (2040) with Roundabout

Intersection Name	Cumulative without Project				Cumulative with Project with Roundabout				Net Change with Improvements	
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	AM	PM
A St & Seventh St	22.2	C	102.4	F	12.1 (11.7)	B (B)	18.0 (16.6)	B (B)	-10.1 (-10.5)	-84.4 (-85.8)
A St & Sixth St/Santa Rosa Plaza*	14.0	B	40.9	E	10.8 (10.8)	B (B)	10.9 (10.9)	B (B)	-3.2 (-3.2)	-30.0 (-30.0)

Note:
* Significantly impacted with the partial closure of Seventh Street only
Values in parentheses represent conditions with the partial closure of Seventh Street

Table 4-6 Improvements to Improve LOS – Cumulative Conditions (2040) With-Project

Location	Improvement
Morgan St & Ninth St	Install traffic signal
A St & Seventh St	Install roundabout
A St & Sixth St	Install roundabout

4.5 CONSTRUCTION IMPACTS

A total closure of Seventh Street between Morgan Street and A Street is being considered for a period of two to four years during the construction of the Project site. The traffic impacts to the study area intersections during the short-term construction closure are evaluated and the results are summarized in this section.

For this analysis, existing intersection lanes were assumed throughout the study area except for the Seventh Street and Morgan Street intersection and the Seventh Street and A Street intersection. The existing traffic volumes were used for the analysis, but the volumes turning to and from the subject section of Seventh Street are diverted and distributed to the surrounding intersections. Peak hour LOS calculated using the diverted traffic volumes are summarized in Table 4-7. The table indicates that the study area intersections would continue to operate at acceptable LOS A and LOS B during both the AM and the PM peak hour during construction with the closure of Seventh Street. HCM delay methodology was used to analyze the signalized intersections and the stop-controlled intersections. Detailed LOS calculation worksheets are provided in Appendix B.

Table 4-7 Intersection LOS Summary – Construction Impacts with Seventh Street Closure

Intersection Name	Traffic Control	Construction			
		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
1. Morgan St & Ninth St	AWSC	13.3	B	12.9	B
2. A St & Eighth St	TWSC	9.6	A	9.7	A
3. B St & Seventh St	Signal	9.1	A	9.4	A
*4a. A St & Seventh St	AWSC	8.0	A	8.4	A
*4b. A St & Seventh St	TWSC	10.9	B	13.3	B
5. Morgan St & Seventh St	TWSC	0.0	A	0.0	A
6. A St & Sixth St/Santa Rosa Plaza	TWSC	10.4	B	13.7	B
7. Morgan St/US 101 NB On-Ramp & Sixth St	Signal	7.9	A	10.3	B
8. Davis St & Sixth St	Signal	7.0	A	11.8	B

Note:
** Intersection #4 is analyzed as two separate stop-controlled intersections, 4a & 4b*
LOS – Level of Service
Delay – Average Vehicle Delay (seconds)
AWSC - All-Way Stop Control
TWSC - Two-Way Stop Control

5.0 CONCLUSION

This traffic study was conducted to evaluate the potential Project impacts associated with the development of the proposed Caritas Village Project. Existing conditions and 2040 cumulative conditions with and without the Project were analyzed.

Based on the results of the LOS analyses and the impact criteria, the study intersections operate at an acceptable level of service and have no project impacts under existing plus Project conditions.

Under the cumulative conditions scenario, the traffic added by the proposed Project contributes to conditions of LOS E or LOS F at the following intersections. However, these are not considered to be significantly impacted due to the exception provided for intersections within the downtown area, provided that feasible improvements are incorporated.

1. Morgan Street & Ninth Street (unsignalized)

4. A Street & Seventh Street (unsignalized)

6. A Street & Sixth Street/Santa Rosa Plaza (with Seventh Street Partial Closure)

Potential improvements have been identified for each of the intersections listed above, which improve LOS at each location. These improvements consists of installation of a traffic signal at the intersection of Morgan Street and Ninth Street, and installation of a roundabout at the A Street and Seventh Street intersection, and for the A Street and Sixth Street intersection as specified in the Santa Rosa's Downtown Station Area Specific Plan.

The traffic impacts of a short-term closure of Seventh Street between Morgan Street and A Street during construction of the project site was also evaluated. Based on the analysis, the study intersections operate at an acceptable LOS and there are no significant impacts during the short-term closure of Seventh Street.

Appendix A TRAFFIC COUNTS

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: 1. Morgan St/Washington St -- 9th St

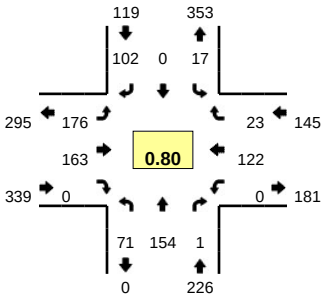
CITY/STATE: Santa Rosa, CA

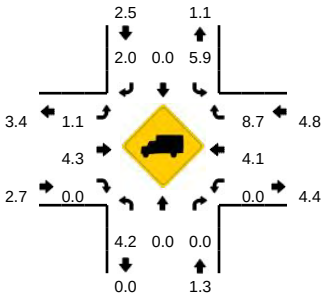
QC JOB #: 14851001

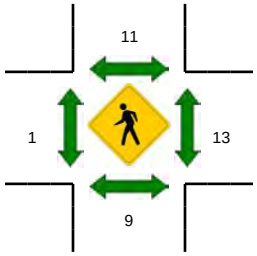
DATE: Wed, Nov 28 2018

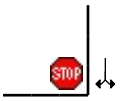
Peak-Hour: 7:35 AM -- 8:35 AM

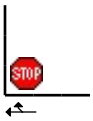
Peak 15-Min: 7:45 AM -- 8:00 AM

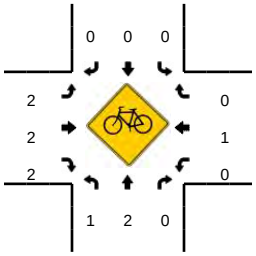


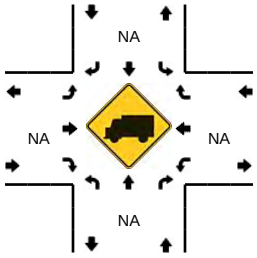


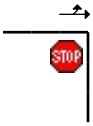


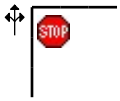


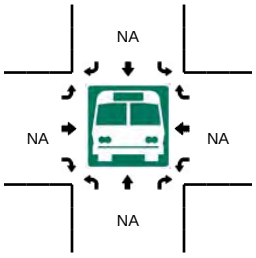












5-Min Count Period Beginning At	1. Morgan St/Washington St (Northbound)				1. Morgan St/Washington St (Southbound)				9th St (Eastbound)				9th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	2	6	1	0	0	0	2	0	4	3	0	0	0	3	0	0	21	
7:05 AM	1	0	0	0	2	0	4	0	2	6	0	0	0	0	1	0	16	
7:10 AM	2	1	0	0	0	0	2	0	4	5	0	0	0	1	0	0	15	
7:15 AM	3	7	0	0	0	0	0	0	4	4	0	0	0	2	0	0	20	
7:20 AM	3	4	0	0	0	0	1	0	7	3	0	0	0	5	0	0	23	
7:25 AM	2	8	0	0	0	0	4	0	5	6	0	0	0	1	2	0	28	
7:30 AM	2	16	1	0	1	0	5	0	18	8	0	0	0	5	1	0	57	
7:35 AM	6	7	0	0	2	0	3	0	20	13	0	0	0	7	0	0	58	
7:40 AM	7	8	0	0	1	0	4	0	18	21	0	0	0	3	1	0	63	
7:45 AM	6	19	0	0	3	0	9	0	23	14	0	0	0	19	1	0	94	
7:50 AM	4	10	1	0	1	0	13	0	17	30	0	0	0	15	0	0	91	
7:55 AM	5	10	0	0	3	0	8	0	17	12	0	0	0	14	4	0	73	559
8:00 AM	8	14	0	0	0	0	14	0	5	12	0	0	0	13	2	0	68	606
8:05 AM	10	12	0	0	1	0	12	0	15	11	0	0	0	6	3	0	70	660
8:10 AM	5	13	0	0	1	0	10	0	14	11	0	0	0	12	3	0	69	714
8:15 AM	3	12	0	0	1	0	8	0	13	8	0	0	0	6	1	0	52	746
8:20 AM	8	18	0	0	0	0	8	0	14	12	0	0	0	3	2	0	65	788
8:25 AM	6	18	0	0	2	0	7	0	6	11	0	0	0	11	4	0	65	825
8:30 AM	3	13	0	0	2	0	6	0	14	8	0	0	0	13	2	0	61	829
8:35 AM	2	13	0	0	4	0	7	0	15	8	0	0	0	4	3	0	56	827
8:40 AM	2	11	0	0	5	0	8	0	22	8	0	0	0	3	3	0	62	826
8:45 AM	4	26	0	0	0	0	7	0	10	7	0	0	0	2	1	0	57	789
8:50 AM	2	28	1	0	1	0	4	0	15	9	0	0	0	2	1	0	63	761
8:55 AM	7	17	0	0	2	0	6	0	11	12	0	0	0	6	2	0	63	751

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	60	156	4	0	28	0	120	0	228	224	0	0	0	192	20	0	1032
Heavy Trucks	4	0	0		0	0	0		0	8	0		0	0	4		16
Pedestrians		16				8				0				4			28
Bicycles	0	2	0		0	0	0		2	1	2		0	0	0		7
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/7/2018 10:35 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

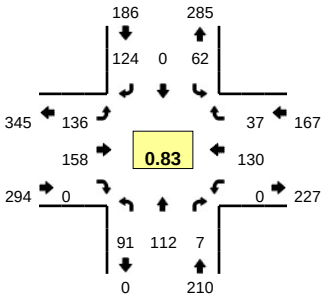
LOCATION: 1. Morgan St/Washington St -- 9th St

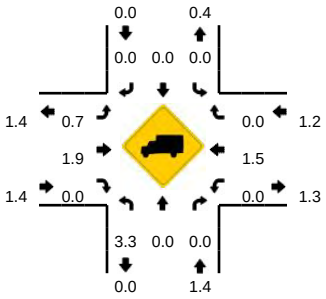
QC JOB #: 14851002

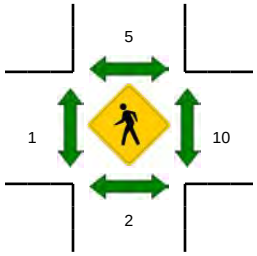
CITY/STATE: Santa Rosa, CA

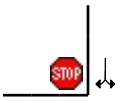
DATE: Wed, Nov 28 2018

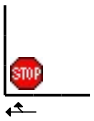
Peak-Hour: 4:55 PM -- 5:55 PM
Peak 15-Min: 5:05 PM -- 5:20 PM

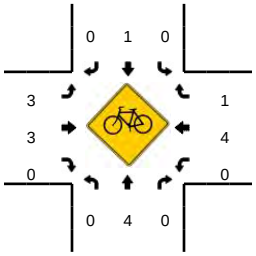


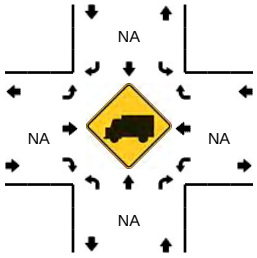


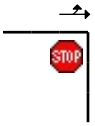


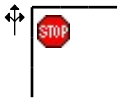


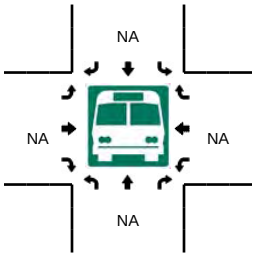












5-Min Count Period Beginning At	1. Morgan St/Washington St (Northbound)				1. Morgan St/Washington St (Southbound)				9th St (Eastbound)				9th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	7	6	2	0	1	0	8	0	16	6	0	0	0	14	1	0	61	
4:05 PM	8	7	2	0	4	0	8	0	6	15	0	0	0	15	1	0	66	
4:10 PM	6	16	0	0	3	0	10	0	9	10	0	0	0	13	0	0	67	
4:15 PM	7	8	0	0	5	0	7	0	5	11	0	0	0	5	2	0	50	
4:20 PM	8	14	0	0	6	0	6	0	6	14	0	0	0	9	5	0	68	
4:25 PM	6	5	0	0	4	0	17	0	4	7	0	0	0	8	2	0	53	
4:30 PM	4	6	1	0	5	0	4	0	6	17	0	0	0	12	2	0	57	
4:35 PM	8	5	1	0	5	0	6	0	6	12	0	0	0	7	2	0	52	
4:40 PM	8	3	1	0	1	0	14	0	5	17	0	0	0	13	1	0	63	
4:45 PM	6	11	1	0	3	0	11	0	6	12	0	0	0	4	3	0	57	
4:50 PM	11	4	0	0	4	0	7	0	11	16	0	0	0	3	2	0	58	
4:55 PM	11	9	1	0	0	0	10	0	13	12	0	0	0	4	1	0	61	713
5:00 PM	3	9	0	0	4	0	6	0	7	15	0	0	0	7	3	0	54	706
5:05 PM	14	8	0	0	6	0	11	0	10	22	0	0	0	13	7	0	91	731
5:10 PM	10	10	3	0	6	0	19	0	9	8	0	0	0	15	5	0	85	749
5:15 PM	10	12	0	0	6	0	17	0	9	12	0	0	0	14	3	0	83	782
5:20 PM	9	9	0	0	4	0	15	0	12	18	0	0	0	16	1	0	84	798
5:25 PM	6	14	0	0	6	0	14	0	7	12	0	0	0	20	4	0	83	828
5:30 PM	5	8	0	0	3	0	9	0	17	10	0	0	0	9	2	0	63	834
5:35 PM	4	3	1	0	8	0	5	0	14	14	0	0	0	7	4	0	60	842
5:40 PM	5	9	0	0	6	0	5	0	8	15	0	0	0	10	2	0	60	839
5:45 PM	7	13	2	0	7	0	4	0	17	11	0	0	0	7	4	0	72	854
5:50 PM	7	8	0	0	6	0	9	0	13	9	0	0	0	8	1	0	61	857
5:55 PM	4	5	0	0	4	0	9	0	5	10	0	0	0	9	8	0	54	850

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	136	120	12	0	72	0	188	0	112	168	0	0	0	168	60	0	1036
Heavy Trucks	0	0	0		0	0	0		0	8	0		0	0	0		8
Pedestrians		4				4				0				20			28
Bicycles	0	0	0		0	0	0		0	1	0		0	3	1		5
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/7/2018 10:35 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

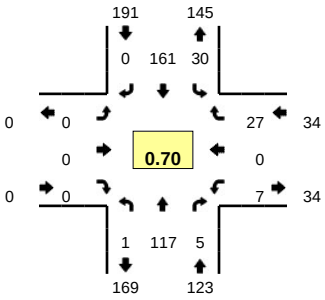
Type of peak hour being reported: Intersection Peak

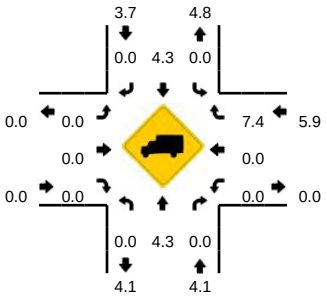
Method for determining peak hour: Total Entering Volume

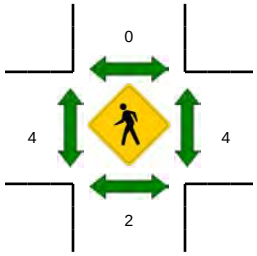
LOCATION: 2. A st -- 8th St
CITY/STATE: Santa Rosa, CA

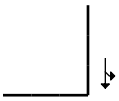
QC JOB #: 14851003
DATE: Wed, Nov 28 2018

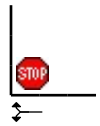
Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:40 AM -- 7:55 AM

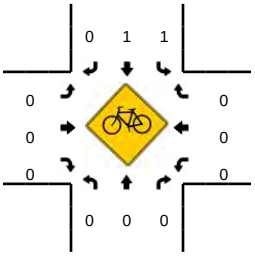


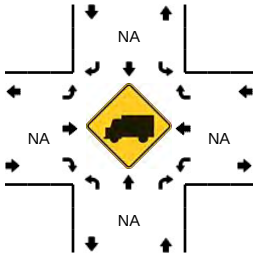


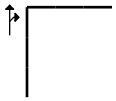


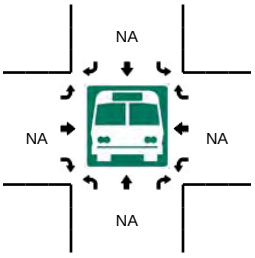












5-Min Count Period Beginning At	2. A st (Northbound)				2. A st (Southbound)				8th St (Eastbound)				8th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	2	1	0	0	3	0	0	0	0	0	0	0	0	1	0	7	
7:05 AM	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	8	
7:10 AM	0	2	0	0	0	5	0	0	0	0	0	0	0	0	0	0	7	
7:15 AM	0	3	0	1	1	4	0	0	0	0	0	0	0	0	0	0	9	
7:20 AM	0	2	0	0	0	2	0	0	0	0	0	0	2	0	1	0	7	
7:25 AM	0	3	2	0	1	5	0	0	0	0	0	0	1	0	0	0	12	
7:30 AM	0	8	1	0	0	12	0	0	0	0	0	0	1	0	2	0	24	
7:35 AM	0	2	0	0	3	14	0	1	0	0	0	0	0	0	0	0	20	
7:40 AM	0	9	0	0	3	23	0	0	0	0	0	0	0	0	2	0	37	
7:45 AM	0	18	0	0	2	16	0	0	0	0	0	0	0	0	2	0	38	
7:50 AM	0	14	0	0	5	24	0	0	0	0	0	0	2	0	5	0	50	
7:55 AM	0	11	0	0	6	9	0	0	0	0	0	0	1	0	2	0	29	248
8:00 AM	0	14	1	1	3	12	0	0	0	0	0	0	1	0	2	0	34	275
8:05 AM	0	9	2	0	1	9	0	0	0	0	0	0	1	0	1	0	23	290
8:10 AM	0	9	0	0	2	13	0	0	0	0	0	0	0	0	3	0	27	310
8:15 AM	0	2	0	0	0	4	0	0	0	0	0	0	0	0	3	0	9	310
8:20 AM	0	10	0	0	2	12	0	0	0	0	0	0	0	0	0	0	24	327
8:25 AM	0	11	1	0	2	13	0	0	0	0	0	0	1	0	5	0	33	348
8:30 AM	0	7	0	0	2	10	0	0	0	0	0	0	0	0	2	0	21	345
8:35 AM	0	4	0	0	0	10	0	0	0	0	0	0	1	0	3	0	18	343
8:40 AM	0	1	0	0	4	7	0	0	0	0	0	0	1	0	2	0	15	321
8:45 AM	0	4	0	0	1	7	0	0	0	0	0	0	0	0	2	0	14	297
8:50 AM	0	5	0	0	0	9	0	0	0	0	0	0	0	0	1	0	15	262
8:55 AM	0	2	0	0	3	14	0	0	0	0	0	0	0	0	2	0	21	254

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	164	0	0	40	252	0	0	0	0	0	0	8	0	36	0	500
Heavy Trucks	0	0	0		0	12	0		0	0	0		0	0	0		12
Pedestrians		4				0				8				4			16
Bicycles	0	0	0		1	0	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

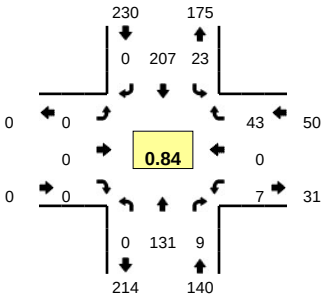
Report generated on 12/7/2018 10:35 AM

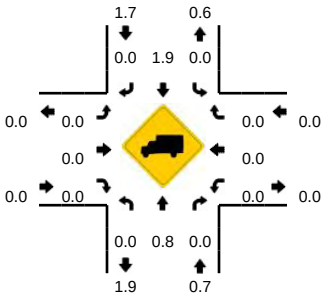
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

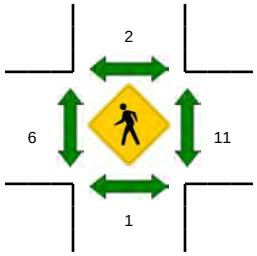
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

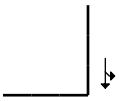
LOCATION: 2. A st -- 8th St | **QC JOB #:** 14851004
CITY/STATE: Santa Rosa, CA | **DATE:** Wed, Nov 28 2018

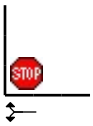
Peak-Hour: 4:55 PM -- 5:55 PM
Peak 15-Min: 5:05 PM -- 5:20 PM

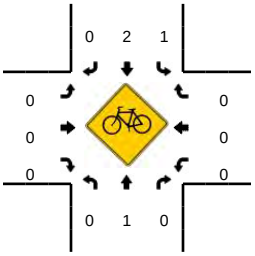


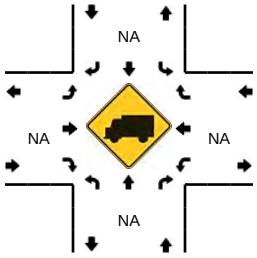


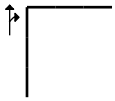


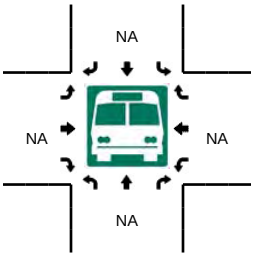












5-Min Count Period Beginning At	2. A st (Northbound)				2. A st (Southbound)				8th St (Eastbound)				8th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	10	0	0	2	6	0	0	0	0	0	0	0	0	2	0	20	
4:05 PM	0	13	2	0	1	17	0	0	0	0	0	0	1	0	5	0	39	
4:10 PM	0	7	0	0	3	16	0	0	0	0	0	0	1	0	3	0	30	
4:15 PM	0	11	1	0	1	11	0	0	0	0	0	0	0	0	2	0	26	
4:20 PM	0	8	1	0	1	19	0	0	0	0	0	0	0	0	3	0	32	
4:25 PM	0	6	0	0	1	13	0	0	0	0	0	0	0	0	0	0	20	
4:30 PM	0	11	1	0	2	25	0	0	0	0	0	0	0	0	4	0	43	
4:35 PM	0	10	0	0	3	10	0	0	0	0	0	0	0	0	0	0	23	
4:40 PM	0	12	2	0	1	17	0	0	0	0	0	0	0	0	0	0	32	
4:45 PM	0	6	1	0	0	20	0	0	0	0	0	0	0	0	0	0	27	
4:50 PM	0	6	1	0	3	13	0	0	0	0	0	0	0	0	0	0	23	
4:55 PM	0	5	0	0	3	13	0	1	0	0	0	0	0	0	4	0	26	341
5:00 PM	0	8	0	0	3	15	0	0	0	0	0	0	1	0	4	0	31	352
5:05 PM	0	16	0	0	3	25	0	0	0	0	0	0	1	0	3	0	48	361
5:10 PM	0	15	1	0	3	13	0	0	0	0	0	0	0	0	5	0	37	368
5:15 PM	0	13	1	0	3	16	0	0	0	0	0	0	0	0	7	0	40	382
5:20 PM	0	13	1	0	0	21	0	0	0	0	0	0	2	0	4	0	41	391
5:25 PM	0	15	0	0	0	14	0	0	0	0	0	0	0	0	2	0	31	402
5:30 PM	0	9	1	0	0	19	0	0	0	0	0	0	1	0	2	0	32	391
5:35 PM	0	9	0	0	2	23	0	0	0	0	0	0	1	0	3	0	38	406
5:40 PM	0	11	1	0	2	18	0	0	0	0	0	0	0	0	2	0	34	408
5:45 PM	0	10	4	0	2	16	0	0	0	0	0	0	1	0	4	0	37	418
5:50 PM	0	7	0	0	1	14	0	0	0	0	0	0	0	0	3	0	25	420
5:55 PM	0	10	3	0	0	11	0	0	0	0	0	0	0	0	1	0	25	419

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	176	8	0	36	216	0	0	0	0	0	0	4	0	60	0	500
Heavy Trucks	0	0	0		0	4	0		0	0	0		0	0	0		4
Pedestrians		0				0				16				16			32
Bicycles	0	1	0		1	0	0		0	0	0		0	0	0		2
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/7/2018 10:35 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

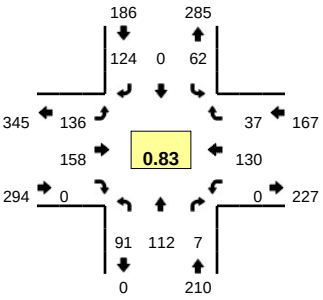
LOCATION: 1. Morgan St/Washington St -- 9th St

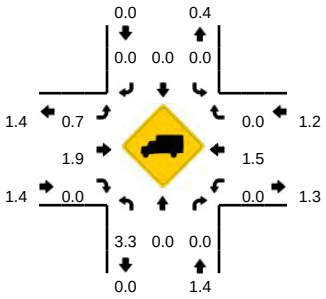
QC JOB #: 14851002

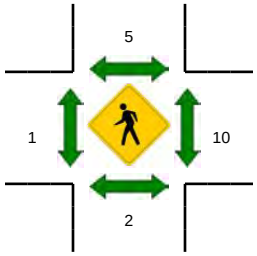
CITY/STATE: Santa Rosa, CA

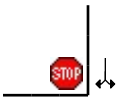
DATE: Wed, Nov 28 2018

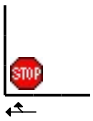
Peak-Hour: 4:55 PM -- 5:55 PM
Peak 15-Min: 5:05 PM -- 5:20 PM

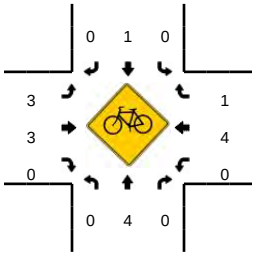


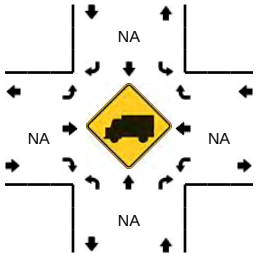


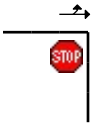


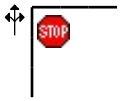


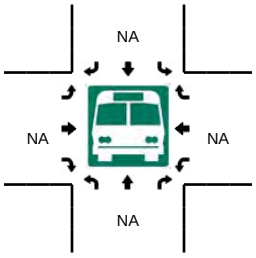












5-Min Count Period Beginning At	1. Morgan St/Washington St (Northbound)				1. Morgan St/Washington St (Southbound)				9th St (Eastbound)				9th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	7	6	2	0	1	0	8	0	16	6	0	0	0	14	1	0	61	
4:05 PM	8	7	2	0	4	0	8	0	6	15	0	0	0	15	1	0	66	
4:10 PM	6	16	0	0	3	0	10	0	9	10	0	0	0	13	0	0	67	
4:15 PM	7	8	0	0	5	0	7	0	5	11	0	0	0	5	2	0	50	
4:20 PM	8	14	0	0	6	0	6	0	6	14	0	0	0	9	5	0	68	
4:25 PM	6	5	0	0	4	0	17	0	4	7	0	0	0	8	2	0	53	
4:30 PM	4	6	1	0	5	0	4	0	6	17	0	0	0	12	2	0	57	
4:35 PM	8	5	1	0	5	0	6	0	6	12	0	0	0	7	2	0	52	
4:40 PM	8	3	1	0	1	0	14	0	5	17	0	0	0	13	1	0	63	
4:45 PM	6	11	1	0	3	0	11	0	6	12	0	0	0	4	3	0	57	
4:50 PM	11	4	0	0	4	0	7	0	11	16	0	0	0	3	2	0	58	
4:55 PM	11	9	1	0	0	0	10	0	13	12	0	0	0	4	1	0	61	713
5:00 PM	3	9	0	0	4	0	6	0	7	15	0	0	0	7	3	0	54	706
5:05 PM	14	8	0	0	6	0	11	0	10	22	0	0	0	13	7	0	91	731
5:10 PM	10	10	3	0	6	0	19	0	9	8	0	0	0	15	5	0	85	749
5:15 PM	10	12	0	0	6	0	17	0	9	12	0	0	0	14	3	0	83	782
5:20 PM	9	9	0	0	4	0	15	0	12	18	0	0	0	16	1	0	84	798
5:25 PM	6	14	0	0	6	0	14	0	7	12	0	0	0	20	4	0	83	828
5:30 PM	5	8	0	0	3	0	9	0	17	10	0	0	0	9	2	0	63	834
5:35 PM	4	3	1	0	8	0	5	0	14	14	0	0	0	7	4	0	60	842
5:40 PM	5	9	0	0	6	0	5	0	8	15	0	0	0	10	2	0	60	839
5:45 PM	7	13	2	0	7	0	4	0	17	11	0	0	0	7	4	0	72	854
5:50 PM	7	8	0	0	6	0	9	0	13	9	0	0	0	8	1	0	61	857
5:55 PM	4	5	0	0	4	0	9	0	5	10	0	0	0	9	8	0	54	850

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	136	120	12	0	72	0	188	0	112	168	0	0	0	168	60	0	1036
Heavy Trucks	0	0	0		0	0	0		0	8	0		0	0	0		8
Pedestrians		4				4				0				20			28
Bicycles	0	0	0		0	0	0		0	1	0		0	3	1		5
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/7/2018 10:35 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

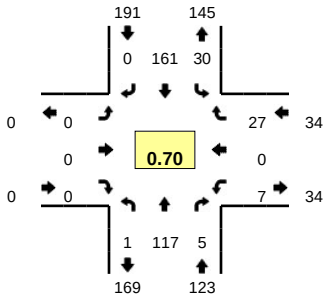
Type of peak hour being reported: Intersection Peak

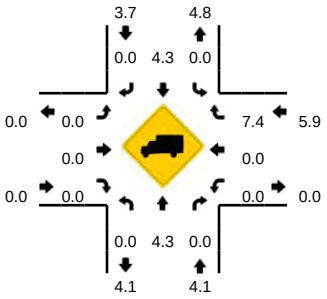
Method for determining peak hour: Total Entering Volume

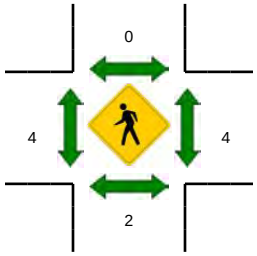
LOCATION: 2. A st -- 8th St
CITY/STATE: Santa Rosa, CA

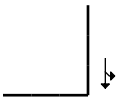
QC JOB #: 14851003
DATE: Wed, Nov 28 2018

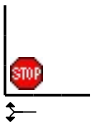
Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:40 AM -- 7:55 AM

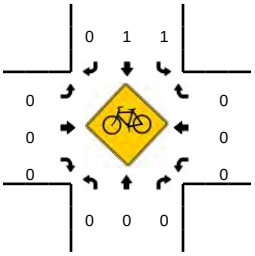


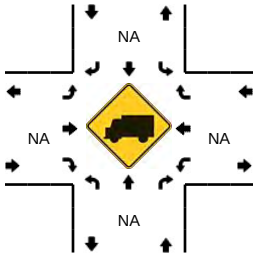


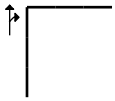


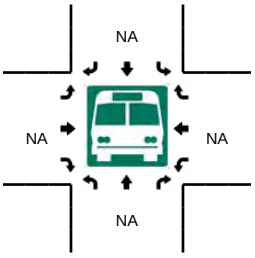












5-Min Count Period Beginning At	2. A st (Northbound)				2. A st (Southbound)				8th St (Eastbound)				8th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	2	1	0	0	3	0	0	0	0	0	0	0	0	1	0	7	
7:05 AM	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	8	
7:10 AM	0	2	0	0	0	5	0	0	0	0	0	0	0	0	0	0	7	
7:15 AM	0	3	0	1	1	4	0	0	0	0	0	0	0	0	0	0	9	
7:20 AM	0	2	0	0	0	2	0	0	0	0	0	0	2	0	1	0	7	
7:25 AM	0	3	2	0	1	5	0	0	0	0	0	0	1	0	0	0	12	
7:30 AM	0	8	1	0	0	12	0	0	0	0	0	0	1	0	2	0	24	
7:35 AM	0	2	0	0	3	14	0	1	0	0	0	0	0	0	0	0	20	
7:40 AM	0	9	0	0	3	23	0	0	0	0	0	0	0	0	2	0	37	
7:45 AM	0	18	0	0	2	16	0	0	0	0	0	0	0	0	2	0	38	
7:50 AM	0	14	0	0	5	24	0	0	0	0	0	0	2	0	5	0	50	
7:55 AM	0	11	0	0	6	9	0	0	0	0	0	0	1	0	2	0	29	248
8:00 AM	0	14	1	1	3	12	0	0	0	0	0	0	1	0	2	0	34	275
8:05 AM	0	9	2	0	1	9	0	0	0	0	0	0	1	0	1	0	23	290
8:10 AM	0	9	0	0	2	13	0	0	0	0	0	0	0	0	3	0	27	310
8:15 AM	0	2	0	0	0	4	0	0	0	0	0	0	0	0	3	0	9	310
8:20 AM	0	10	0	0	2	12	0	0	0	0	0	0	0	0	0	0	24	327
8:25 AM	0	11	1	0	2	13	0	0	0	0	0	0	1	0	5	0	33	348
8:30 AM	0	7	0	0	2	10	0	0	0	0	0	0	0	0	2	0	21	345
8:35 AM	0	4	0	0	0	10	0	0	0	0	0	0	1	0	3	0	18	343
8:40 AM	0	1	0	0	4	7	0	0	0	0	0	0	1	0	2	0	15	321
8:45 AM	0	4	0	0	1	7	0	0	0	0	0	0	0	0	2	0	14	297
8:50 AM	0	5	0	0	0	9	0	0	0	0	0	0	0	0	1	0	15	262
8:55 AM	0	2	0	0	3	14	0	0	0	0	0	0	0	0	2	0	21	254

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	164	0	0	40	252	0	0	0	0	0	0	8	0	36	0	500
Heavy Trucks	0	0	0		0	12	0		0	0	0		0	0	0		12
Pedestrians		4				0				8				4			16
Bicycles	0	0	0		1	0	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

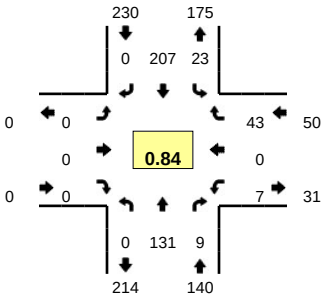
Report generated on 12/7/2018 10:35 AM

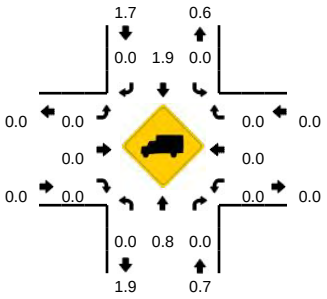
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

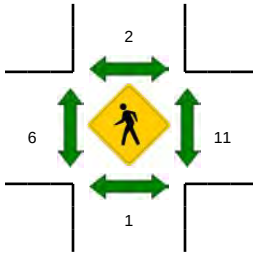
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

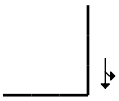
LOCATION: 2. A st -- 8th St | **QC JOB #:** 14851004
CITY/STATE: Santa Rosa, CA | **DATE:** Wed, Nov 28 2018

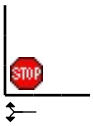
Peak-Hour: 4:55 PM -- 5:55 PM
Peak 15-Min: 5:05 PM -- 5:20 PM

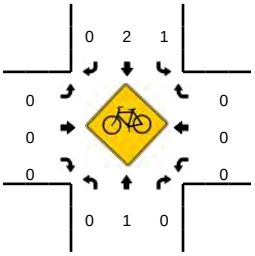


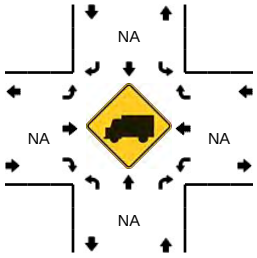


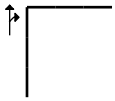


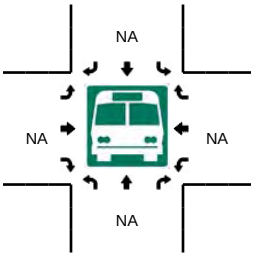












5-Min Count Period Beginning At	2. A st (Northbound)				2. A st (Southbound)				8th St (Eastbound)				8th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	10	0	0	2	6	0	0	0	0	0	0	0	0	2	0	20	
4:05 PM	0	13	2	0	1	17	0	0	0	0	0	0	1	0	5	0	39	
4:10 PM	0	7	0	0	3	16	0	0	0	0	0	0	1	0	3	0	30	
4:15 PM	0	11	1	0	1	11	0	0	0	0	0	0	0	0	2	0	26	
4:20 PM	0	8	1	0	1	19	0	0	0	0	0	0	0	0	3	0	32	
4:25 PM	0	6	0	0	1	13	0	0	0	0	0	0	0	0	0	0	20	
4:30 PM	0	11	1	0	2	25	0	0	0	0	0	0	0	0	4	0	43	
4:35 PM	0	10	0	0	3	10	0	0	0	0	0	0	0	0	0	0	23	
4:40 PM	0	12	2	0	1	17	0	0	0	0	0	0	0	0	0	0	32	
4:45 PM	0	6	1	0	0	20	0	0	0	0	0	0	0	0	0	0	27	
4:50 PM	0	6	1	0	3	13	0	0	0	0	0	0	0	0	0	0	23	
4:55 PM	0	5	0	0	3	13	0	1	0	0	0	0	0	0	4	0	26	341
5:00 PM	0	8	0	0	3	15	0	0	0	0	0	0	1	0	4	0	31	352
5:05 PM	0	16	0	0	3	25	0	0	0	0	0	0	1	0	3	0	48	361
5:10 PM	0	15	1	0	3	13	0	0	0	0	0	0	0	0	5	0	37	368
5:15 PM	0	13	1	0	3	16	0	0	0	0	0	0	0	0	7	0	40	382
5:20 PM	0	13	1	0	0	21	0	0	0	0	0	0	2	0	4	0	41	391
5:25 PM	0	15	0	0	0	14	0	0	0	0	0	0	0	0	2	0	31	402
5:30 PM	0	9	1	0	0	19	0	0	0	0	0	0	1	0	2	0	32	391
5:35 PM	0	9	0	0	2	23	0	0	0	0	0	0	1	0	3	0	38	406
5:40 PM	0	11	1	0	2	18	0	0	0	0	0	0	0	0	2	0	34	408
5:45 PM	0	10	4	0	2	16	0	0	0	0	0	0	1	0	4	0	37	418
5:50 PM	0	7	0	0	1	14	0	0	0	0	0	0	0	0	3	0	25	420
5:55 PM	0	10	3	0	0	11	0	0	0	0	0	0	0	0	1	0	25	419

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	176	8	0	36	216	0	0	0	0	0	0	4	0	60	0	500
Heavy Trucks	0	0	0		0	4	0		0	0	0		0	0	0		4
Pedestrians		0				0				16				16			32
Bicycles	0	1	0		1	0	0		0	0	0		0	0	0		2
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/7/2018 10:35 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

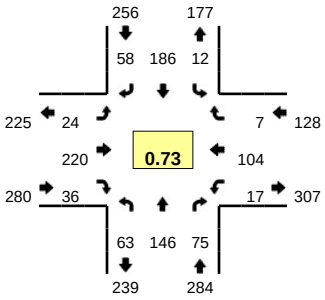
Type of peak hour being reported: Intersection Peak

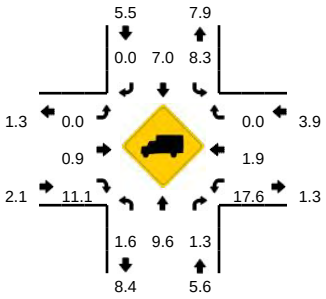
Method for determining peak hour: Total Entering Volume

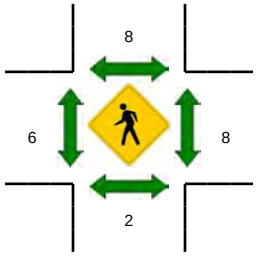
LOCATION: 3. B St -- 7th St
CITY/STATE: Santa Rosa, CA

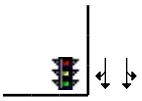
QC JOB #: 14851005
DATE: Wed, Nov 28 2018

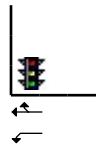
Peak-Hour: 7:40 AM -- 8:40 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

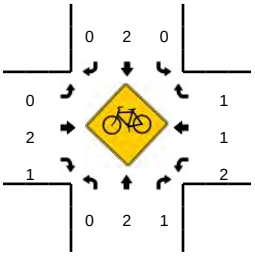


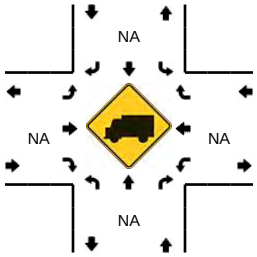


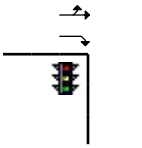


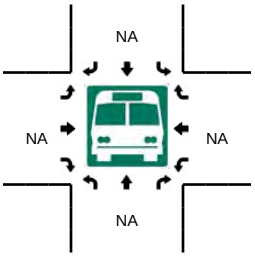












5-Min Count Period Beginning At	3. B St (Northbound)				3. B St (Southbound)				7th St (Eastbound)				7th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	1	2	0	0	4	1	0	2	8	1	0	1	6	1	0	27	
7:05 AM	4	4	2	0	1	9	0	0	0	8	6	0	0	2	0	0	36	
7:10 AM	2	7	1	0	0	5	1	0	0	6	6	0	0	2	0	0	30	
7:15 AM	3	3	3	0	1	4	1	0	2	9	2	0	0	1	0	0	29	
7:20 AM	1	6	2	0	0	4	4	0	1	7	1	0	2	4	1	0	33	
7:25 AM	4	9	4	0	0	7	3	0	1	10	1	0	1	2	0	0	42	
7:30 AM	5	5	2	0	3	9	3	0	0	11	2	0	0	1	0	0	41	
7:35 AM	4	10	3	0	3	9	1	0	1	15	0	0	1	6	0	0	53	
7:40 AM	4	8	7	0	0	15	2	0	3	24	2	0	0	6	0	0	71	
7:45 AM	4	20	12	0	2	13	5	0	6	25	3	0	2	15	0	0	107	
7:50 AM	4	21	4	0	2	17	9	0	5	33	3	0	1	17	0	0	116	
7:55 AM	6	15	10	0	3	24	3	0	1	25	2	0	1	13	0	0	103	688
8:00 AM	7	15	7	0	1	17	6	0	1	19	2	0	0	10	1	0	86	747
8:05 AM	2	5	5	0	1	22	5	0	2	18	5	0	2	8	0	0	75	786
8:10 AM	9	3	4	0	0	11	3	0	3	10	3	0	3	11	0	0	60	816
8:15 AM	3	5	4	0	1	12	7	0	0	13	4	0	2	7	1	0	59	846
8:20 AM	2	13	7	0	0	21	4	0	0	14	3	0	4	4	0	0	72	885
8:25 AM	11	18	6	0	0	9	8	0	1	14	5	0	0	7	2	0	81	924
8:30 AM	5	16	3	0	1	7	3	0	1	11	2	0	2	3	1	0	55	938
8:35 AM	6	7	6	0	1	18	3	0	1	14	2	0	0	3	2	0	63	948
8:40 AM	1	9	5	0	1	10	4	0	3	16	6	0	0	2	1	0	58	935
8:45 AM	4	17	7	0	1	19	2	0	3	12	5	0	1	4	0	0	75	903
8:50 AM	3	16	13	0	2	12	3	0	0	13	5	0	2	2	0	0	71	858
8:55 AM	3	13	3	0	1	12	7	0	1	20	7	0	1	2	0	0	70	825

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	56	224	104	0	28	216	68	0	48	332	32	0	16	180	0	0	1304
Heavy Trucks	4	24	4		0	12	0		0	4	4		4	4	0		60
Pedestrians		0				12				4				20			36
Bicycles	0	1	0		0	2	0		0	1	0		1	0	0		5
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/7/2018 10:35 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

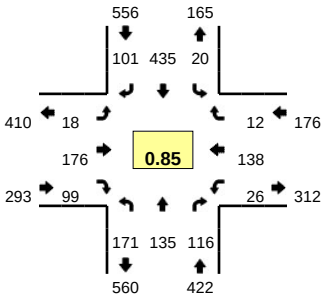
Type of peak hour being reported: Intersection Peak

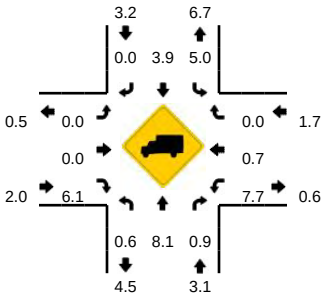
Method for determining peak hour: Total Entering Volume

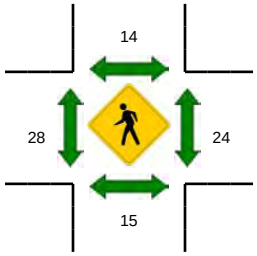
LOCATION: 3. B St -- 7th St
CITY/STATE: Santa Rosa, CA

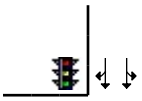
QC JOB #: 14851006
DATE: Wed, Nov 28 2018

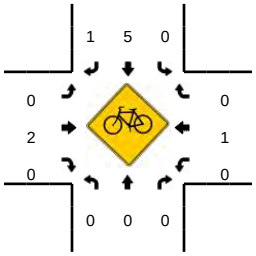
Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

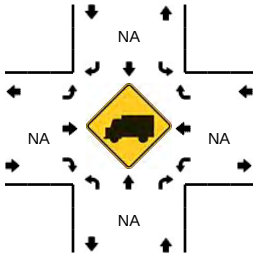


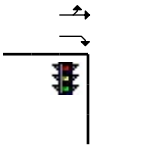


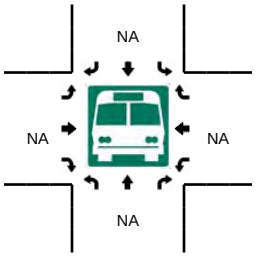












5-Min Count Period Beginning At	3. B St (Northbound)				3. B St (Southbound)				7th St (Eastbound)				7th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	7	6	7	0	2	32	6	0	0	4	4	0	2	5	1	0	76	
4:05 PM	13	12	6	0	0	33	8	0	0	9	7	0	1	9	0	0	98	
4:10 PM	10	8	8	0	5	32	8	0	0	10	3	0	0	6	1	0	91	
4:15 PM	9	10	10	0	4	29	3	0	4	17	6	0	2	4	0	0	98	
4:20 PM	10	9	9	0	0	36	7	0	1	12	7	0	1	5	0	0	97	
4:25 PM	8	15	4	0	1	25	4	0	2	13	3	0	4	7	1	0	87	
4:30 PM	19	6	7	0	0	33	14	0	0	13	6	0	3	14	0	0	115	
4:35 PM	10	14	6	0	3	30	11	0	0	12	7	0	2	6	2	0	103	
4:40 PM	16	12	13	0	2	44	10	0	2	12	3	0	0	4	0	0	118	
4:45 PM	13	15	6	0	1	33	7	0	5	19	11	0	1	6	2	0	119	
4:50 PM	7	5	8	0	0	32	7	0	1	13	6	0	4	9	1	0	93	
4:55 PM	7	8	6	0	2	18	5	0	2	9	7	0	1	10	2	0	77	1172
5:00 PM	8	16	4	0	4	54	11	0	1	22	10	0	1	10	2	0	143	1239
5:05 PM	19	13	14	0	1	33	19	0	2	22	9	0	2	20	0	0	154	1295
5:10 PM	16	10	12	0	1	40	7	0	3	15	9	0	2	14	1	0	130	1334
5:15 PM	16	12	8	0	1	38	9	0	2	20	3	0	2	17	2	0	130	1366
5:20 PM	17	13	8	0	3	30	7	0	1	15	9	0	3	8	1	0	115	1384
5:25 PM	13	11	13	0	0	22	7	0	0	17	6	0	0	10	0	0	99	1396
5:30 PM	8	7	12	0	1	55	8	0	1	11	11	0	1	12	2	0	129	1410
5:35 PM	12	14	8	0	1	32	6	0	3	13	10	0	0	11	2	0	112	1419
5:40 PM	11	10	10	0	4	50	5	0	1	16	9	0	3	9	0	0	128	1429
5:45 PM	23	10	8	0	1	27	7	0	0	8	9	0	3	10	0	0	106	1416
5:50 PM	11	10	10	0	1	32	9	0	2	6	8	0	3	8	0	0	100	1423
5:55 PM	17	9	9	0	2	22	6	0	2	11	6	0	6	9	2	0	101	1447

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	172	156	120	0	24	508	148	0	24	236	112	0	20	176	12	0	1708
Heavy Trucks	0	8	0		0	16	0		0	0	4		0	0	0		28
Pedestrians		4				24				28				16			72
Bicycles	0	0	0		0	2	0		0	0	0		0	0	0		2
Railroad Stopped Buses																	

Comments:

Report generated on 12/7/2018 10:35 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

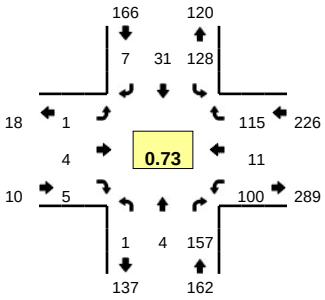
Type of peak hour being reported: Intersection Peak

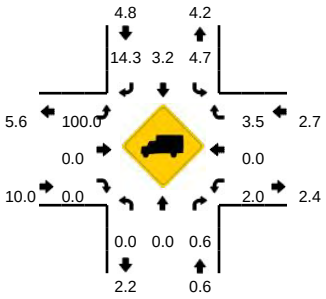
Method for determining peak hour: Total Entering Volume

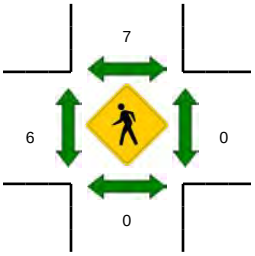
LOCATION: 4. A St -- 7th St
CITY/STATE: Santa Rosa, CA

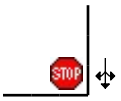
QC JOB #: 14851007
DATE: Wed, Nov 28 2018

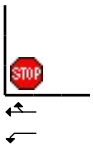
Peak-Hour: 7:40 AM -- 8:40 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

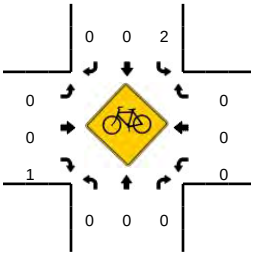


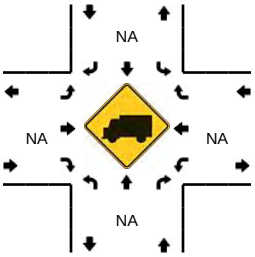


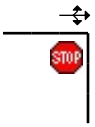


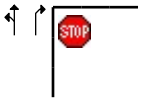


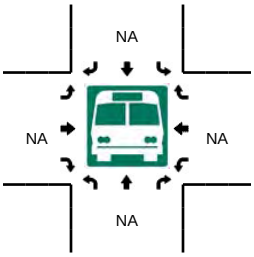












5-Min Count Period Beginning At	4. A St (Northbound)				4. A St (Southbound)				7th St (Eastbound)				7th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	1	6	0	2	0	0	0	0	0	0	0	3	0	3	0	15	
7:05 AM	0	0	8	0	7	2	0	0	0	0	1	0	6	0	0	0	24	
7:10 AM	0	0	8	0	2	4	0	0	0	0	1	0	4	0	1	0	20	
7:15 AM	0	0	10	0	3	0	0	0	0	0	2	0	3	0	3	0	21	
7:20 AM	0	0	4	1	3	2	0	0	0	0	0	0	5	0	3	0	18	
7:25 AM	0	1	8	0	3	3	0	0	0	0	1	0	7	0	3	0	26	
7:30 AM	0	1	5	0	10	0	0	0	0	0	1	0	3	0	7	0	27	
7:35 AM	0	0	5	0	10	2	0	0	0	0	0	0	8	0	5	0	30	
7:40 AM	0	0	12	0	18	3	0	0	0	0	0	0	4	1	4	0	42	
7:45 AM	0	1	20	0	15	0	0	0	0	0	1	0	5	0	17	0	59	
7:50 AM	0	0	18	0	21	5	0	0	0	2	0	0	16	0	10	0	72	
7:55 AM	0	0	19	0	11	3	1	0	0	0	0	0	13	1	14	0	62	416
8:00 AM	0	1	13	0	7	7	0	0	0	1	1	0	10	2	14	0	56	457
8:05 AM	0	0	15	0	8	1	2	0	0	1	1	0	8	0	8	0	44	477
8:10 AM	0	1	12	1	8	3	0	0	0	0	0	0	10	1	11	0	47	504
8:15 AM	0	0	4	0	8	0	0	0	0	0	0	0	10	2	5	0	29	512
8:20 AM	0	1	11	0	5	2	1	0	1	0	2	0	5	0	5	0	33	527
8:25 AM	0	0	11	0	10	3	0	0	0	0	0	0	11	3	12	0	50	551
8:30 AM	0	0	8	0	8	2	1	0	0	0	0	0	3	0	10	0	32	556
8:35 AM	0	0	14	0	9	2	2	0	0	0	0	0	5	1	5	0	38	564
8:40 AM	0	1	12	0	7	3	1	0	0	0	0	0	6	0	1	0	31	553
8:45 AM	0	1	14	0	5	2	1	0	0	0	1	0	3	0	3	0	30	524
8:50 AM	0	0	8	0	9	0	1	0	1	1	1	0	5	0	1	0	27	479
8:55 AM	0	0	18	1	12	1	0	0	0	0	0	0	6	0	6	0	44	461

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	4	228	0	188	32	4	0	0	8	4	0	136	4	164	0	772
Heavy Trucks	0	0	0		8	0	0		0	0	0		4	0	4		16
Pedestrians		0				16				12				0			28
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/7/2018 10:35 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

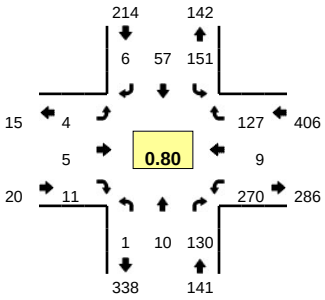
Type of peak hour being reported: Intersection Peak

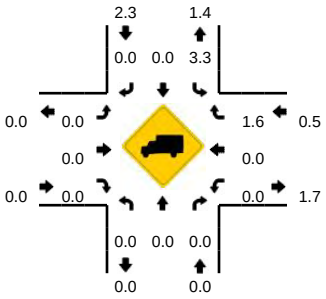
Method for determining peak hour: Total Entering Volume

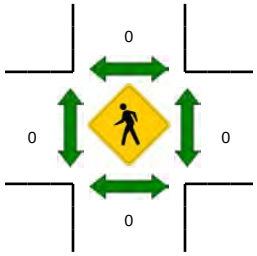
LOCATION: 4. A St -- 7th St
CITY/STATE: Santa Rosa, CA

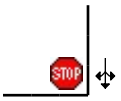
QC JOB #: 14851008
DATE: Wed, Nov 28 2018

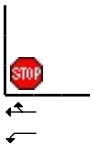
Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:05 PM -- 5:20 PM

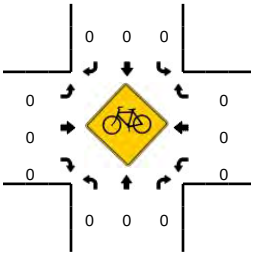


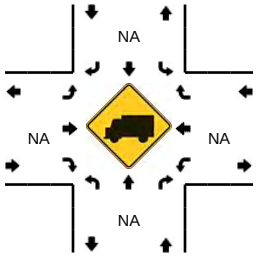


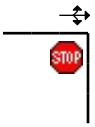


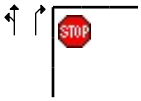


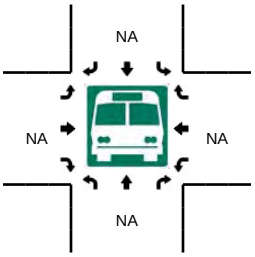












5-Min Count Period Beginning At	4. A St (Northbound)				4. A St (Southbound)				7th St (Eastbound)				7th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	1	4	0	3	6	0	0	0	0	0	0	7	0	9	0	30	
4:05 PM	0	0	8	0	10	7	0	0	0	0	1	0	15	0	10	0	51	
4:10 PM	0	0	9	0	6	3	3	0	0	1	0	0	11	1	9	0	43	
4:15 PM	0	0	11	1	14	3	0	0	0	0	1	0	6	1	5	0	42	
4:20 PM	0	1	9	0	7	6	1	0	0	0	1	0	12	1	10	0	48	
4:25 PM	0	2	10	0	7	6	0	0	0	1	0	0	13	0	7	0	46	
4:30 PM	0	2	7	0	15	4	1	0	0	0	0	0	36	1	11	0	77	
4:35 PM	0	1	6	0	11	3	2	0	1	0	0	0	18	0	6	0	48	
4:40 PM	0	3	11	0	11	3	0	0	0	0	0	0	21	0	13	0	62	
4:45 PM	0	2	15	0	16	3	1	0	0	0	1	0	19	0	6	0	63	
4:50 PM	0	0	8	0	10	2	3	0	0	0	2	0	14	1	7	0	47	
4:55 PM	0	1	11	0	9	1	0	0	1	0	1	0	16	0	4	0	44	601
5:00 PM	0	2	16	0	8	5	0	0	0	0	0	0	26	1	6	0	64	635
5:05 PM	0	1	16	0	19	7	1	0	0	2	1	0	40	2	10	1	100	684
5:10 PM	0	0	12	0	11	5	1	0	1	0	2	0	25	0	14	0	71	712
5:15 PM	0	0	14	0	9	5	0	0	0	0	0	0	31	0	13	0	72	742
5:20 PM	0	2	9	1	14	7	1	1	1	0	1	0	19	1	8	0	65	759
5:25 PM	0	1	9	0	12	4	0	0	0	2	1	0	16	0	19	0	64	777
5:30 PM	0	1	12	0	11	0	0	0	0	0	0	0	16	0	8	0	48	748
5:35 PM	0	1	7	0	19	6	0	0	0	1	1	0	18	0	9	0	62	762
5:40 PM	0	1	8	0	16	7	1	0	1	0	2	0	16	0	10	0	62	762
5:45 PM	0	1	11	0	12	2	1	0	1	0	3	0	24	3	11	0	69	768
5:50 PM	0	0	5	0	10	6	1	0	0	0	0	0	20	1	6	0	49	770
5:55 PM	0	0	11	0	9	3	0	0	0	0	0	0	18	1	13	0	55	781

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	4	168	0	156	68	8	0	4	8	12	0	384	8	148	4	972
Heavy Trucks	0	0	0		4	0	0		0	0	0		0	0	4		8
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/7/2018 10:35 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: 5. Morgan St -- 7th St

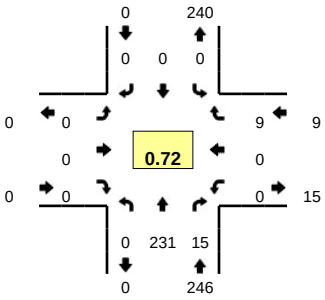
CITY/STATE: Santa Rosa, CA

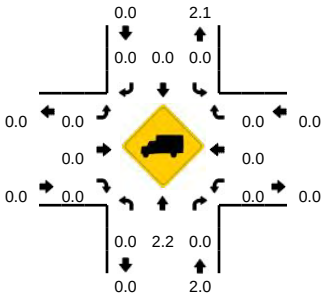
QC JOB #: 14851009

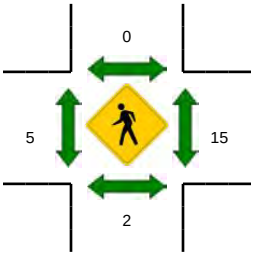
DATE: Wed, Nov 28 2018

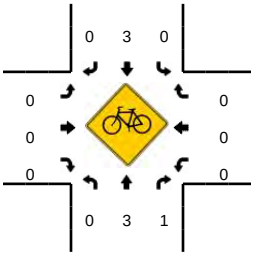
Peak-Hour: 8:00 AM -- 9:00 AM

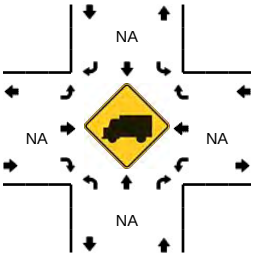
Peak 15-Min: 8:45 AM -- 9:00 AM

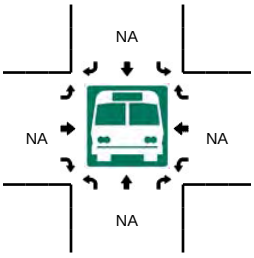












5-Min Count Period Beginning At	5. Morgan St (Northbound)				5. Morgan St (Southbound)				7th St (Eastbound)				7th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	
7:05 AM	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
7:10 AM	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	6	
7:15 AM	0	8	1	0	0	0	0	0	0	0	0	0	0	0	0	0	9	
7:20 AM	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	
7:25 AM	0	13	1	0	0	0	0	0	0	0	0	0	0	0	0	0	14	
7:30 AM	0	13	1	0	0	0	0	0	0	0	0	0	0	0	0	0	14	
7:35 AM	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	
7:40 AM	0	19	1	0	0	0	0	0	0	0	0	0	0	0	1	0	21	
7:45 AM	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	
7:50 AM	0	10	2	0	0	0	0	0	0	0	0	0	0	0	0	0	12	
7:55 AM	0	22	0	0	0	0	0	0	0	0	0	0	0	0	1	0	23	152
8:00 AM	0	16	2	0	0	0	0	0	0	0	0	0	0	0	2	0	20	167
8:05 AM	0	14	2	0	0	0	0	0	0	0	0	0	0	0	1	0	17	180
8:10 AM	0	14	1	0	0	0	0	0	0	0	0	0	0	0	0	0	15	189
8:15 AM	0	22	2	0	0	0	0	0	0	0	0	0	0	0	1	0	25	205
8:20 AM	0	17	1	0	0	0	0	0	0	0	0	0	0	0	0	0	18	214
8:25 AM	0	18	0	0	0	0	0	0	0	0	0	0	0	0	1	0	19	219
8:30 AM	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	222
8:35 AM	0	19	1	0	0	0	0	0	0	0	0	0	0	0	3	0	23	232
8:40 AM	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	224
8:45 AM	0	28	2	0	0	0	0	0	0	0	0	0	0	0	0	0	30	232
8:50 AM	0	28	2	0	0	0	0	0	0	0	0	0	0	0	1	0	31	251
8:55 AM	0	25	2	0	0	0	0	0	0	0	0	0	0	0	0	0	27	255

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	324	24	0	0	0	0	0	0	0	0	0	0	0	4	0	352
Heavy Trucks	0	8	0		0	0	0		0	0	0		0	0	0		8
Pedestrians		0				0				0				8			8
Bicycles	0	1	1		0	1	0		0	0	0		0	0	0		3
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/7/2018 10:35 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: 5. Morgan St -- 7th St

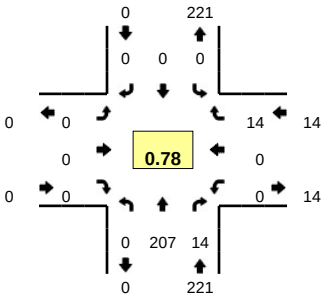
CITY/STATE: Santa Rosa, CA

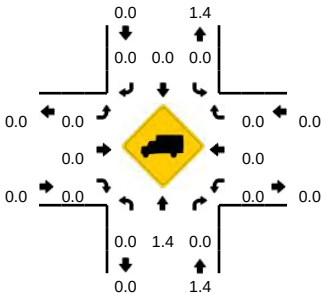
QC JOB #: 14851010

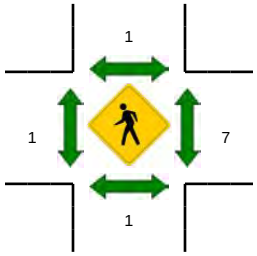
DATE: Wed, Nov 28 2018

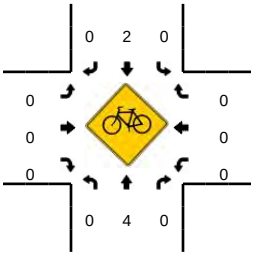
Peak-Hour: 4:45 PM -- 5:45 PM

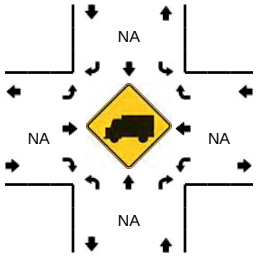
Peak 15-Min: 5:05 PM -- 5:20 PM

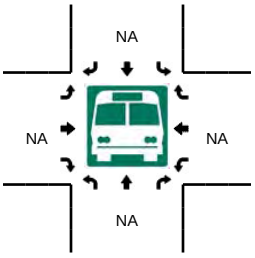












5-Min Count Period Beginning At	5. Morgan St (Northbound)				5. Morgan St (Southbound)				7th St (Eastbound)				7th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	
4:05 PM	0	21	1	0	0	0	0	0	0	0	0	0	0	0	2	0	24	
4:10 PM	0	16	1	0	0	0	0	0	0	0	0	0	0	0	2	0	19	
4:15 PM	0	11	0	0	0	0	0	0	0	0	0	0	0	0	1	0	12	
4:20 PM	0	22	1	0	0	0	0	0	0	0	0	0	0	0	1	0	24	
4:25 PM	0	9	0	0	0	0	0	0	0	0	0	0	0	0	1	0	10	
4:30 PM	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	1	11	
4:35 PM	0	13	0	0	0	0	0	0	0	0	0	0	0	0	1	0	14	
4:40 PM	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	
4:45 PM	0	21	0	0	0	0	0	0	0	0	0	0	0	0	2	0	23	
4:50 PM	0	17	2	0	0	0	0	0	0	0	0	0	0	0	2	0	21	
4:55 PM	0	11	0	0	0	0	0	0	0	0	0	0	0	0	1	0	12	195
5:00 PM	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	197
5:05 PM	0	24	1	0	0	0	0	0	0	0	0	0	0	0	4	0	29	202
5:10 PM	0	23	2	0	0	0	0	0	0	0	0	0	0	0	0	0	25	208
5:15 PM	0	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	217
5:20 PM	0	21	3	0	0	0	0	0	0	0	0	0	0	0	2	0	26	219
5:25 PM	0	20	1	0	0	0	0	0	0	0	0	0	0	0	0	0	21	230
5:30 PM	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	229
5:35 PM	0	7	3	0	0	0	0	0	0	0	0	0	0	0	0	0	10	225
5:40 PM	0	16	2	0	0	0	0	0	0	0	0	0	0	0	3	0	21	235
5:45 PM	0	15	2	0	0	0	0	0	0	0	0	0	0	0	6	0	23	235
5:50 PM	0	12	0	0	0	0	0	0	0	0	0	0	0	0	1	0	13	227
5:55 PM	0	9	0	0	0	0	0	0	0	0	0	0	0	0	1	0	10	225

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	272	12	0	0	0	0	0	0	0	0	0	0	0	16	0	300
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	0	0		0
Pedestrians		0				0				0				16			16
Bicycles	0	1	0		0	0	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/7/2018 10:35 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

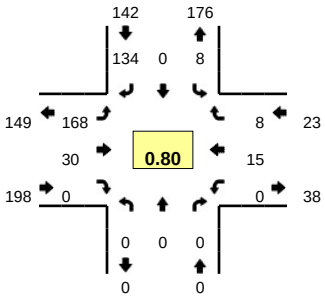
LOCATION: 6. A St -- 6th St/Santa Rosa Plaza

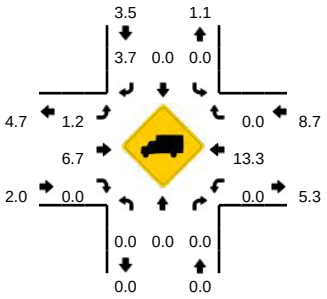
QC JOB #: 14851011

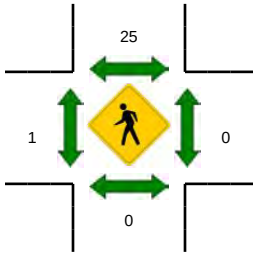
CITY/STATE: Santa Rosa, CA

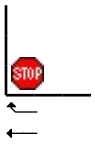
DATE: Wed, Nov 28 2018

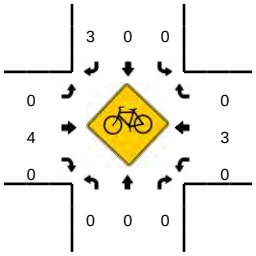
Peak-Hour: 7:45 AM -- 8:45 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

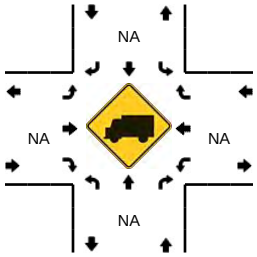


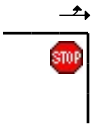


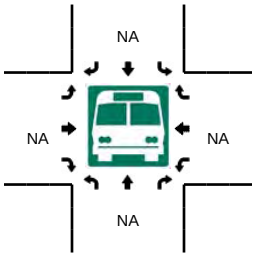












5-Min Count Period Beginning At	6. A St (Northbound)				6. A St (Southbound)				6th St/Santa Rosa Plaza (Eastbound)				6th St/Santa Rosa Plaza (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	0	0	3	0	7	2	0	0	0	0	0	0	12	
7:05 AM	0	0	0	0	0	0	11	0	8	4	0	0	0	0	1	0	24	
7:10 AM	0	0	0	0	0	0	6	0	9	2	0	0	0	0	0	0	17	
7:15 AM	0	0	0	0	0	0	5	0	10	2	0	0	0	1	0	0	18	
7:20 AM	0	0	0	0	0	0	8	0	6	1	0	0	0	0	0	0	15	
7:25 AM	0	0	0	0	0	0	8	0	10	1	0	0	0	1	0	0	20	
7:30 AM	0	0	0	0	0	0	6	0	6	2	0	0	0	0	0	0	14	
7:35 AM	0	0	0	0	1	0	10	0	5	1	0	0	0	0	0	0	17	
7:40 AM	0	0	0	0	0	0	9	0	14	3	0	0	0	1	0	0	27	
7:45 AM	0	0	0	0	0	0	8	0	21	3	0	0	0	1	1	0	34	
7:50 AM	0	0	0	0	1	0	20	0	25	1	0	0	0	1	0	0	48	
7:55 AM	0	0	0	0	1	0	13	0	14	3	0	0	0	0	1	0	32	278
8:00 AM	0	0	0	0	2	0	14	0	12	2	0	0	0	1	0	0	31	297
8:05 AM	0	0	0	0	1	0	12	0	16	2	0	0	0	3	1	0	35	308
8:10 AM	0	0	0	0	0	0	13	0	12	3	0	0	0	2	1	0	31	322
8:15 AM	0	0	0	0	0	0	11	0	6	2	0	0	0	1	0	0	20	324
8:20 AM	0	0	0	0	1	0	6	0	13	3	0	0	0	3	0	0	26	335
8:25 AM	0	0	0	0	1	0	14	0	11	1	0	0	0	0	2	0	29	344
8:30 AM	0	0	0	0	0	0	6	0	10	3	0	0	0	3	0	0	22	352
8:35 AM	0	0	0	0	0	0	8	0	17	0	0	0	0	0	0	0	25	360
8:40 AM	0	0	0	0	1	0	9	0	11	7	0	0	0	0	2	0	30	363
8:45 AM	0	0	0	0	0	0	7	0	15	2	0	0	0	0	1	0	25	354
8:50 AM	0	0	0	0	1	0	7	0	8	2	0	0	0	1	0	0	19	325
8:55 AM	0	0	0	0	0	0	8	0	19	2	0	0	0	1	1	0	31	324

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	8	0	164	0	240	28	0	0	0	8	8	0	456
Heavy Trucks	0	0	0		0	0	4		0	0	0		0	0	0		4
Pedestrians		0				16				0				0			16
Bicycles	0	0	0		0	0	1		0	2	0		0	0	0		3
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/7/2018 10:35 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

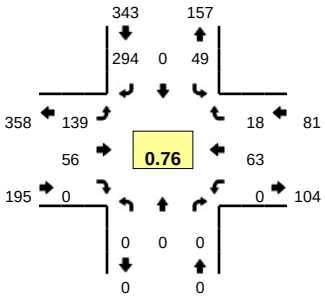
LOCATION: 6. A St -- 6th St/Santa Rosa Plaza

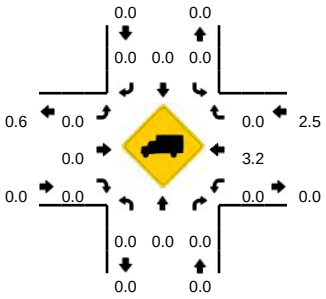
QC JOB #: 14851012

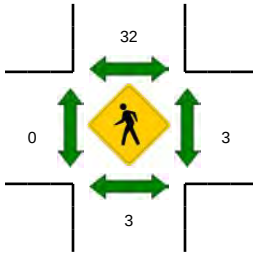
CITY/STATE: Santa Rosa, CA

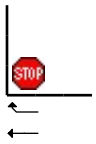
DATE: Wed, Nov 28 2018

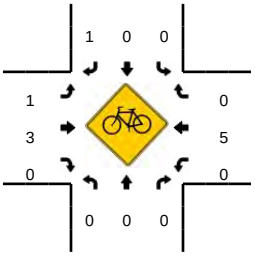
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:05 PM -- 5:20 PM

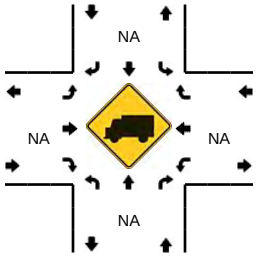


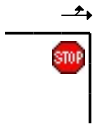


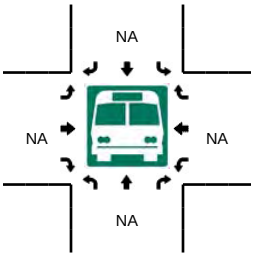












5-Min Count Period Beginning At	6. A St (Northbound)				6. A St (Southbound)				6th St/Santa Rosa Plaza (Eastbound)				6th St/Santa Rosa Plaza (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	1	0	12	0	5	3	0	0	0	5	1	0	27	
4:05 PM	0	0	0	0	3	0	23	0	8	6	0	0	0	8	1	0	49	
4:10 PM	0	0	0	0	2	0	16	0	10	6	0	0	0	10	2	1	47	
4:15 PM	0	0	0	0	2	0	10	0	11	4	0	0	0	4	1	0	32	
4:20 PM	0	0	0	0	4	0	16	0	9	4	0	1	0	6	3	0	43	
4:25 PM	0	0	0	0	5	0	14	0	9	4	0	0	0	5	2	0	39	
4:30 PM	0	0	0	0	2	0	39	0	8	6	0	0	0	5	1	0	61	
4:35 PM	0	0	0	0	3	0	17	0	5	1	0	0	0	5	2	0	33	
4:40 PM	0	0	0	0	3	0	26	0	11	3	0	0	0	3	2	0	48	
4:45 PM	0	0	0	0	2	0	17	0	18	3	0	0	0	5	1	0	46	
4:50 PM	0	0	0	0	3	0	18	0	10	2	0	0	0	6	1	0	40	
4:55 PM	0	0	0	0	3	0	15	0	13	3	0	0	0	7	0	0	41	506
5:00 PM	0	0	0	0	3	0	22	0	16	6	0	0	0	8	3	0	58	537
5:05 PM	0	0	0	0	7	0	37	1	11	8	0	0	0	6	2	0	72	560
5:10 PM	0	0	0	0	5	0	30	0	14	8	0	0	0	5	1	0	63	576
5:15 PM	0	0	0	0	7	0	35	0	14	6	0	0	0	4	2	0	68	612
5:20 PM	0	0	0	0	6	0	21	0	7	5	0	1	0	5	2	0	47	616
5:25 PM	0	0	0	0	4	0	17	0	11	5	0	0	0	4	1	0	42	619
5:30 PM	0	0	0	0	1	0	16	0	10	4	0	0	0	4	2	0	37	595
5:35 PM	0	0	0	0	3	0	21	0	7	1	0	0	0	10	2	0	44	606
5:40 PM	0	0	0	0	8	0	16	0	8	5	0	0	0	13	2	0	52	610
5:45 PM	0	0	0	0	3	0	26	0	12	7	0	0	0	4	0	0	52	616
5:50 PM	0	0	0	0	5	0	21	0	4	3	0	0	0	7	2	0	42	618
5:55 PM	0	0	0	0	2	0	19	0	12	5	0	0	0	2	1	0	41	618

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	76	0	408	4	156	88	0	0	0	60	20	0	812
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	0	0		0
Pedestrians		0				44				0				0			44
Bicycles	0	0	0		0	0	0		0	2	0		0	2	0		4
Railroad																	
Stopped Buses																	

Comments:

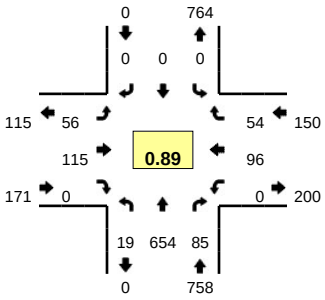
Report generated on 12/7/2018 10:35 AM

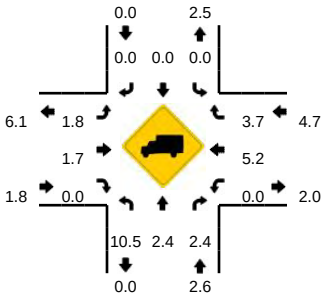
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

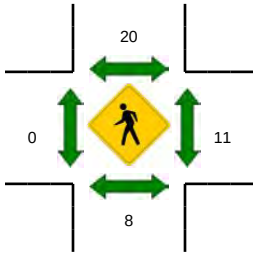
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

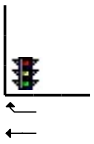
LOCATION: 7. Morgan St/Redwood Hwy NB Ramp -- 6th St | **QC JOB #:** 14851013
CITY/STATE: Santa Rosa, CA | **DATE:** Wed, Nov 28 2018

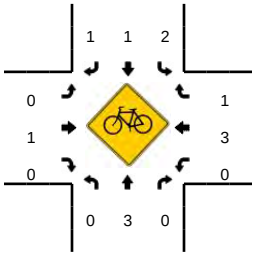
Peak-Hour: 7:45 AM -- 8:45 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

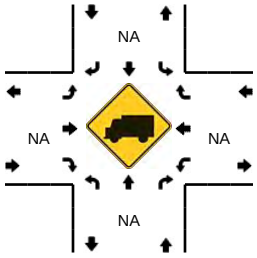


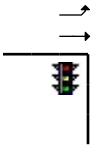


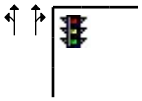


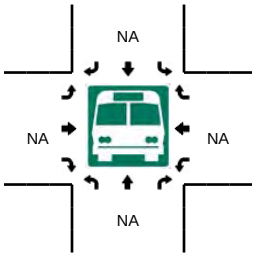












5-Min Count Period Beginning At	7. Morgan St/Redwood Hwy NB Ramp (Northbound)				8. Morgan St/Redwood Hwy NB Ramp (Southbound)				6th St (Eastbound)				6th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	16	3	0	0	0	0	0	2	3	0	0	0	0	2	0	26	
7:05 AM	0	17	7	0	0	0	0	0	2	5	0	0	0	5	6	0	42	
7:10 AM	0	17	4	0	0	0	0	0	0	7	0	0	0	5	2	0	35	
7:15 AM	2	19	5	0	0	0	0	0	1	7	0	0	0	2	4	0	40	
7:20 AM	1	33	4	0	0	0	0	0	0	3	0	0	0	2	4	0	47	
7:25 AM	1	26	4	0	0	0	0	0	3	7	0	0	0	5	6	0	52	
7:30 AM	2	42	5	0	0	0	0	0	3	3	0	0	0	2	3	0	60	
7:35 AM	1	56	5	0	0	0	0	0	5	1	0	0	0	6	3	0	77	
7:40 AM	1	46	6	0	0	0	0	0	8	11	0	0	0	5	5	0	82	
7:45 AM	2	63	9	0	0	0	0	0	5	17	0	0	0	6	4	0	106	
7:50 AM	0	48	8	0	0	0	0	0	9	17	0	0	0	13	6	0	101	
7:55 AM	0	57	10	0	0	0	0	0	6	8	0	0	0	11	5	0	97	765
8:00 AM	0	56	5	0	0	0	0	0	3	9	0	0	0	7	7	0	87	826
8:05 AM	2	50	7	0	0	0	0	0	2	11	0	0	0	8	6	0	86	870
8:10 AM	1	53	7	0	0	0	0	0	8	8	0	0	0	12	5	0	94	929
8:15 AM	5	62	3	0	0	0	0	0	3	4	0	0	0	9	3	0	89	978
8:20 AM	2	63	8	0	0	0	0	0	3	8	0	0	0	6	2	0	92	1023
8:25 AM	2	41	4	0	0	0	0	0	6	8	0	0	0	6	7	0	74	1045
8:30 AM	1	52	5	0	0	0	0	0	3	8	0	0	0	7	4	0	80	1065
8:35 AM	2	50	11	0	0	0	0	0	3	7	0	0	0	6	2	0	81	1069
8:40 AM	2	59	8	0	0	0	0	0	5	10	0	0	0	5	3	0	92	1079
8:45 AM	1	61	11	0	0	0	0	0	4	5	0	0	0	5	3	0	90	1063
8:50 AM	5	50	3	0	0	0	0	0	1	8	0	0	0	5	3	0	75	1037
8:55 AM	4	52	10	0	0	0	0	0	2	10	0	0	0	8	0	0	86	1026

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	8	672	108	0	0	0	0	0	80	168	0	0	0	120	60	0	1216
Heavy Trucks	4	12	0		0	0	0		0	0	0		0	4	0		20
Pedestrians		12				40				0				12			64
Bicycles	0	1	0		1	0	0		0	0	0		0	1	0		3
Railroad																	
Stopped Buses																	

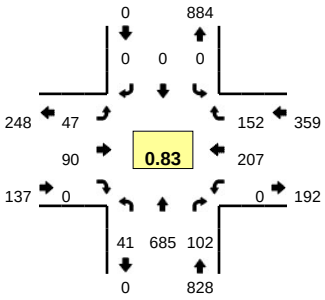
Comments:

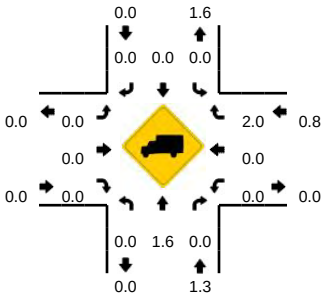
Report generated on 12/7/2018 10:35 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

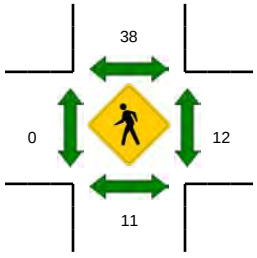
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

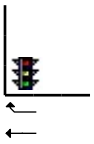
LOCATION: 7. Morgan St/Redwood Hwy NB Ramp -- 6th St | **QC JOB #:** 14851014
CITY/STATE: Santa Rosa, CA | **DATE:** Wed, Nov 28 2018

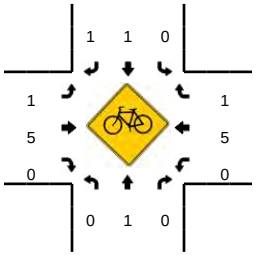
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:05 PM -- 5:20 PM

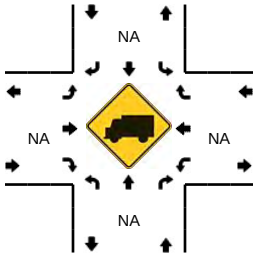


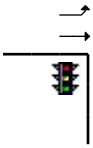


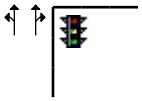


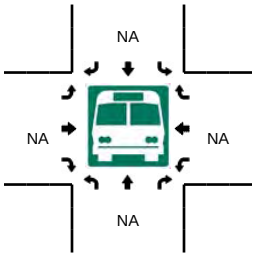












5-Min Count Period Beginning At	7. Morgan St/Redwood Hwy NB Ramp (Northbound)				8. Morgan St/Redwood Hwy NB Ramp (Southbound)				6th St (Eastbound)				6th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	6	42	2	0	0	0	0	0	0	6	0	0	0	9	8	0	73	
4:05 PM	3	41	9	0	0	0	0	0	4	7	0	0	0	17	13	0	94	
4:10 PM	2	47	5	0	0	0	0	0	1	9	0	0	0	14	11	0	89	
4:15 PM	5	40	9	0	0	0	0	0	4	7	0	0	0	7	7	0	79	
4:20 PM	7	52	7	0	0	0	0	0	3	7	0	0	0	16	7	0	99	
4:25 PM	3	46	8	0	0	0	0	0	2	5	0	0	0	13	7	0	84	
4:30 PM	4	42	5	0	0	0	0	0	3	9	0	0	0	21	21	0	105	
4:35 PM	0	49	2	0	0	0	0	0	8	3	0	0	0	13	10	0	85	
4:40 PM	3	64	11	0	0	0	0	0	1	5	0	0	0	18	11	0	113	
4:45 PM	2	45	12	0	0	0	0	0	3	8	0	0	0	19	4	0	93	
4:50 PM	4	56	6	0	0	0	0	0	4	4	0	0	0	11	13	0	98	
4:55 PM	3	64	11	0	0	0	0	0	3	6	0	0	0	11	9	0	107	1119
5:00 PM	5	60	11	0	0	0	0	0	0	12	0	0	0	24	8	0	120	1166
5:05 PM	4	66	8	0	0	0	0	0	4	10	0	0	0	22	23	0	137	1209
5:10 PM	5	66	14	0	0	0	0	0	9	10	0	0	0	18	16	0	138	1258
5:15 PM	6	62	5	0	0	0	0	0	5	12	0	0	0	23	13	0	126	1305
5:20 PM	1	62	7	0	0	0	0	0	4	5	0	0	0	14	11	0	104	1310
5:25 PM	4	49	10	0	0	0	0	0	3	6	0	0	0	13	13	0	98	1324
5:30 PM	6	38	5	0	0	0	0	0	5	8	0	0	0	12	4	0	78	1297
5:35 PM	8	49	7	0	0	0	0	0	3	1	0	0	0	21	13	0	102	1314
5:40 PM	2	45	8	0	0	0	0	0	4	6	0	0	0	17	12	0	94	1295
5:45 PM	7	47	10	0	0	0	0	0	2	7	0	0	0	21	10	0	104	1306
5:50 PM	3	38	3	0	0	0	0	0	3	6	0	0	0	19	9	0	81	1289
5:55 PM	5	45	10	0	0	0	0	0	2	6	0	0	0	10	10	0	88	1270

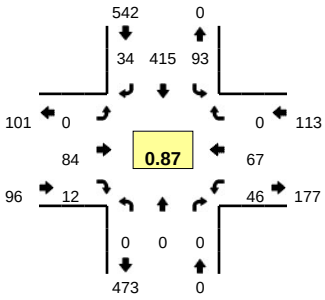
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	60	776	108	0	0	0	0	0	72	128	0	0	0	252	208	0	1604
Heavy Trucks	0	16	0		0	0	0		0	0	0		0	0	0		16
Pedestrians		4				36				0				28			68
Bicycles	0	1	0		0	0	0		0	1	0		0	1	0		3
Railroad																	
Stopped Buses																	

Comments:

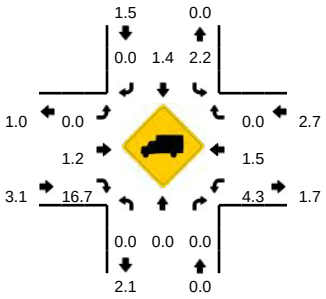
Report generated on 12/7/2018 10:35 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

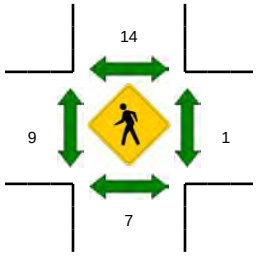
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

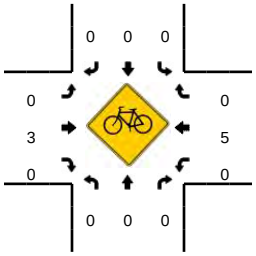
LOCATION: 8. Davis St/Redwood Hwy SB Ramp -- 6th St | **QC JOB #:** 14851015
CITY/STATE: Santa Rosa, CA | **DATE:** Wed, Nov 28 2018

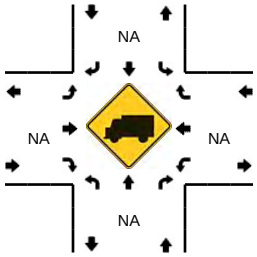


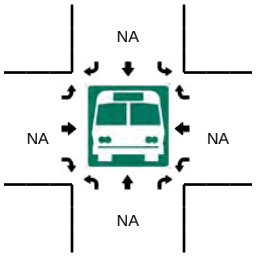
Peak-Hour: 7:45 AM -- 8:45 AM
Peak 15-Min: 7:45 AM -- 8:00 AM











5-Min Count Period Beginning At	8. Davis St/Redwood Hwy SB Ramp (Northbound)				8. Davis St/Redwood Hwy SB Ramp (Southbound)				6th St (Eastbound)				6th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	4	16	0	0	0	3	2	0	1	1	0	0	27	
7:05 AM	0	0	0	0	6	17	1	0	0	1	1	0	3	2	0	0	31	
7:10 AM	0	0	0	0	5	17	0	0	0	1	1	0	3	1	0	0	28	
7:15 AM	0	0	0	0	7	23	2	0	0	2	0	0	1	3	0	0	38	
7:20 AM	0	0	0	0	2	24	1	0	0	2	0	0	3	3	0	0	35	
7:25 AM	0	0	0	0	6	20	1	0	0	4	1	0	1	2	0	0	35	
7:30 AM	0	0	0	0	5	30	3	0	0	2	1	0	1	3	0	0	45	
7:35 AM	0	0	0	0	3	32	2	0	0	5	2	0	6	2	0	0	52	
7:40 AM	0	0	0	0	6	25	0	0	0	13	1	0	4	1	0	0	50	
7:45 AM	0	0	0	0	8	42	3	0	0	15	0	0	1	6	0	0	75	
7:50 AM	0	0	0	0	14	46	2	0	0	11	0	0	6	7	0	0	86	
7:55 AM	0	0	0	0	8	32	2	0	0	4	0	0	3	7	0	0	56	558
8:00 AM	0	0	0	0	6	19	1	0	0	7	6	0	3	5	0	0	47	578
8:05 AM	0	0	0	0	9	37	2	0	0	9	0	0	6	3	0	0	66	613
8:10 AM	0	0	0	0	5	40	2	0	0	3	2	0	6	8	0	0	66	651
8:15 AM	0	0	0	0	5	41	6	0	0	4	1	0	2	11	0	0	70	683
8:20 AM	0	0	0	0	6	33	7	0	0	7	1	0	4	4	0	0	62	710
8:25 AM	0	0	0	0	8	41	3	0	0	5	1	0	5	4	0	0	67	742
8:30 AM	0	0	0	0	11	27	1	0	0	3	1	0	2	4	0	0	49	746
8:35 AM	0	0	0	0	7	27	2	0	0	8	0	0	4	5	0	0	53	747
8:40 AM	0	0	0	0	6	30	3	0	0	8	0	0	4	3	0	0	54	751
8:45 AM	0	0	0	0	8	23	4	0	0	6	1	0	2	2	0	0	46	722
8:50 AM	0	0	0	0	8	30	3	0	0	0	1	0	3	5	0	0	50	686
8:55 AM	0	0	0	0	11	34	4	0	0	4	1	0	4	5	0	0	63	693

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	120	480	28	0	0	120	0	0	40	80	0	0	868
Heavy Trucks	0	0	0		0	12	0		0	0	0		0	4	0		16
Pedestrians		12				20				4				0			36
Bicycles	0	0	0		0	0	0		0	2	0		0	1	0		3
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/7/2018 10:35 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: 8. Davis St/Redwood Hwy SB Ramp -- 6th St

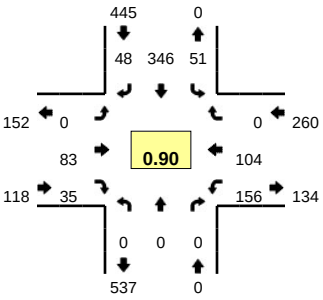
QC JOB #: 14851016

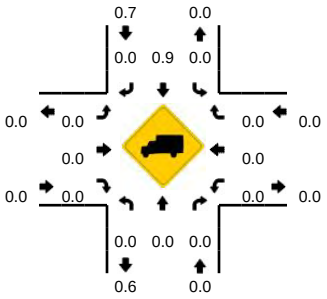
CITY/STATE: Santa Rosa, CA

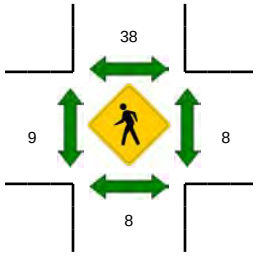
DATE: Wed, Nov 28 2018

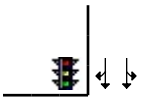
Peak-Hour: 5:00 PM -- 6:00 PM

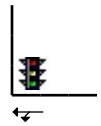
Peak 15-Min: 5:00 PM -- 5:15 PM

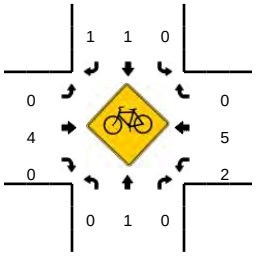


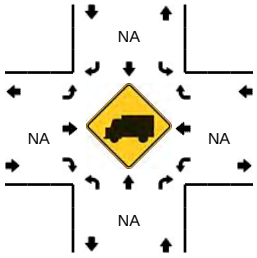


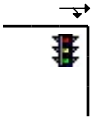


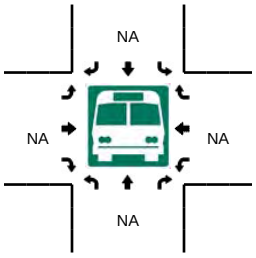












5-Min Count Period Beginning At	8. Davis St/Redwood Hwy SB Ramp (Northbound)				8. Davis St/Redwood Hwy SB Ramp (Southbound)				6th St (Eastbound)				6th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	6	23	8	0	0	3	5	0	6	10	0	0	61	
4:05 PM	0	0	0	0	7	33	6	0	0	4	5	0	12	6	0	0	73	
4:10 PM	0	0	0	0	7	15	4	0	0	6	1	0	10	11	0	0	54	
4:15 PM	0	0	0	0	6	21	3	0	0	7	4	0	3	5	0	0	49	
4:20 PM	0	0	0	0	3	24	2	0	0	6	2	0	11	13	0	0	61	
4:25 PM	0	0	0	0	5	22	1	0	0	3	2	0	7	9	0	0	49	
4:30 PM	0	0	0	0	9	26	5	0	0	4	4	0	10	12	0	0	70	
4:35 PM	0	0	0	0	5	22	4	0	0	8	3	0	8	6	0	0	56	
4:40 PM	0	0	0	0	3	34	4	0	0	2	2	0	15	5	0	0	65	
4:45 PM	0	0	0	0	5	25	2	0	0	6	2	0	10	8	0	0	58	
4:50 PM	0	0	0	0	4	20	2	0	0	4	2	0	4	10	0	0	46	
4:55 PM	0	0	0	0	6	23	5	0	0	5	1	0	7	6	0	0	53	695
5:00 PM	0	0	0	0	5	30	4	0	0	5	3	0	15	10	0	0	72	706
5:05 PM	0	0	0	0	8	26	4	0	0	8	3	0	17	12	0	0	78	711
5:10 PM	0	0	0	0	4	31	7	0	0	12	2	0	13	10	0	0	79	736
5:15 PM	0	0	0	0	2	23	3	0	0	13	8	0	10	10	0	0	69	756
5:20 PM	0	0	0	0	2	24	1	0	0	10	5	0	14	7	0	0	63	758
5:25 PM	0	0	0	0	3	35	3	0	0	7	3	0	10	8	0	0	69	778
5:30 PM	0	0	0	0	3	24	4	0	0	6	3	0	12	6	0	0	58	766
5:35 PM	0	0	0	0	1	28	2	0	0	4	2	0	15	8	0	0	60	770
5:40 PM	0	0	0	0	7	34	4	0	0	6	1	0	14	6	0	0	72	777
5:45 PM	0	0	0	0	7	38	5	0	0	3	1	0	18	10	0	0	82	801
5:50 PM	0	0	0	0	2	21	6	0	0	4	3	0	10	11	0	0	57	812
5:55 PM	0	0	0	0	7	32	5	0	0	5	1	0	8	6	0	0	64	823

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	68	348	60	0	0	100	32	0	180	128	0	0	916
Heavy Trucks	0	0	0		0	4	0		0	0	0		0	0	0		4
Pedestrians		8				44				12				4			68
Bicycles	0	0	0		0	0	0		0	1	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/7/2018 10:35 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

LOCATION: 1. 6th St btwn Morgan St & A St

QC JOB #: 14851017

SPECIFIC LOCATION: 1. 6th St btwn Morgan St & A St

DIRECTION: NB/SB

CITY/STATE: Santa Rosa, CA

DATE: Nov 28 2018 - Nov 28 2018

Start Time	Mon	Tue	Wed 28-Nov-18	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			9			9			9	
12:15 AM			7			7			7	
12:30 AM			7			7			7	
12:45 AM			4			4			4	
1:00 AM			2			2			2	
1:15 AM			6			6			6	
1:30 AM			2			2			2	
1:45 AM			2			2			2	
2:00 AM			1			1			1	
2:15 AM			2			2			2	
2:30 AM			5			5			5	
2:45 AM			0			0			0	
3:00 AM			0			0			0	
3:15 AM			3			3			3	
3:30 AM			1			1			1	
3:45 AM			0			0			0	
4:00 AM			0			0			0	
4:15 AM			1			1			1	
4:30 AM			0			0			0	
4:45 AM			5			5			5	
5:00 AM			5			5			5	
5:15 AM			4			4			4	
5:30 AM			9			9			9	
5:45 AM			16			16			16	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 1. 6th St btwn Morgan St & A St
QC JOB #: 14851017
SPECIFIC LOCATION: 1. 6th St btwn Morgan St & A St
DIRECTION: NB/SB
CITY/STATE: Santa Rosa, CA
DATE: Nov 28 2018 - Nov 28 2018

Start Time	Mon	Tue	Wed 28-Nov-18	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM			15			15			15	
6:15 AM			10			10			10	
6:30 AM			14			14			14	
6:45 AM			26			26			26	
7:00 AM			47			47			47	
7:15 AM			51			51			51	
7:30 AM			54			54			54	
7:45 AM			55			55			55	
8:00 AM			**109**			**109**			**109**	
8:15 AM			93			93			93	
8:30 AM			55			55			55	
8:45 AM			73			73			73	
9:00 AM			73			73			73	
9:15 AM			73			73			73	
9:30 AM			62			62			62	
9:45 AM			77			77			77	
10:00 AM			86			86			86	
10:15 AM			77			77			77	
10:30 AM			81			81			81	
10:45 AM			76			76			76	
11:00 AM			88			88			88	
11:15 AM			76			76			76	
11:30 AM			80			80			80	
11:45 AM			91			91			91	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 1. 6th St btwn Morgan St & A St
QC JOB #: 14851017
SPECIFIC LOCATION: 1. 6th St btwn Morgan St & A St
DIRECTION: NB/SB
CITY/STATE: Santa Rosa, CA
DATE: Nov 28 2018 - Nov 28 2018

Start Time	Mon	Tue	Wed 28-Nov-18	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM			96			96			96	
12:15 PM			117			117			117	
12:30 PM			103			103			103	
12:45 PM			88			88			88	
1:00 PM			89			89			89	
1:15 PM			109			109			109	
1:30 PM			95			95			95	
1:45 PM			108			108			108	
2:00 PM			102			102			102	
2:15 PM			94			94			94	
2:30 PM			62			62			62	
2:45 PM			95			95			95	
3:00 PM			99			99			99	
3:15 PM			131			131			131	
3:30 PM			100			100			100	
3:45 PM			111			111			111	
4:00 PM			107			107			107	
4:15 PM			107			107			107	
4:30 PM			97			97			97	
4:45 PM			106			106			106	
5:00 PM			112			112			112	
5:15 PM			**158**			**158**			**158**	
5:30 PM			121			121			121	
5:45 PM			101			101			101	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 1. 6th St btwn Morgan St & A St
QC JOB #: 14851017
SPECIFIC LOCATION: 1. 6th St btwn Morgan St & A St
DIRECTION: NB/SB
CITY/STATE: Santa Rosa, CA
DATE: Nov 28 2018 - Nov 28 2018

Start Time	Mon	Tue	Wed 28-Nov-18	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM			120			120			120	
6:15 PM			94			94			94	
6:30 PM			73			73			73	
6:45 PM			79			79			79	
7:00 PM			94			94			94	
7:15 PM			60			60			60	
7:30 PM			55			55			55	
7:45 PM			59			59			59	
8:00 PM			63			63			63	
8:15 PM			72			72			72	
8:30 PM			57			57			57	
8:45 PM			41			41			41	
9:00 PM			37			37			37	
9:15 PM			36			36			36	
9:30 PM			29			29			29	
9:45 PM			15			15			15	
10:00 PM			14			14			14	
10:15 PM			20			20			20	
10:30 PM			24			24			24	
10:45 PM			16			16			16	
11:00 PM			10			10			10	
11:15 PM			5			5			5	
11:30 PM			9			9			9	
11:45 PM			4			4			4	
Day Total			5227			5227			5227	
% Weekday Average			100.0%							
% Week Average			100.0%			100.0%				
AM Peak			8:00 AM			8:00 AM			8:00 AM	
Volume			109			109			109	
PM Peak			5:15 PM			5:15 PM			5:15 PM	
Volume			158			158			158	

Comments:

LOCATION: 2. A St btwn 7th St & 6th St/Santa Rosa Plaza

QC JOB #: 14851018

SPECIFIC LOCATION: 2. A St btwn 7th St & 6th St/Santa Rosa Plaza

DIRECTION: EB/WB

CITY/STATE: Santa Rosa, CA

DATE: Nov 28 2018 - Nov 28 2018

Start Time	Mon	Tue	Wed 28-Nov-18	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			5			5			5	
12:15 AM			9			9			9	
12:30 AM			4			4			4	
12:45 AM			2			2			2	
1:00 AM			5			5			5	
1:15 AM			1			1			1	
1:30 AM			1			1			1	
1:45 AM			1			1			1	
2:00 AM			1			1			1	
2:15 AM			5			5			5	
2:30 AM			0			0			0	
2:45 AM			1			1			1	
3:00 AM			3			3			3	
3:15 AM			0			0			0	
3:30 AM			0			0			0	
3:45 AM			0			0			0	
4:00 AM			1			1			1	
4:15 AM			0			0			0	
4:30 AM			3			3			3	
4:45 AM			3			3			3	
5:00 AM			5			5			5	
5:15 AM			9			9			9	
5:30 AM			14			14			14	
5:45 AM			9			9			9	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 2. A St btwn 7th St & 6th St/Santa Rosa Plaza

QC JOB #: 14851018

SPECIFIC LOCATION: 2. A St btwn 7th St & 6th St/Santa Rosa Plaza

DIRECTION: EB/WB

CITY/STATE: Santa Rosa, CA

DATE: Nov 28 2018 - Nov 28 2018

Start Time	Mon	Tue	Wed 28-Nov-18	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM			11			11			11	
6:15 AM			16			16			16	
6:30 AM			21			21			21	
6:45 AM			39			39			39	
7:00 AM			42			42			42	
7:15 AM			46			46			46	
7:30 AM			48			48			48	
7:45 AM			83			83			83	
8:00 AM			**87**			**87**			**87**	
8:15 AM			61			61			61	
8:30 AM			58			58			58	
8:45 AM			63			63			63	
9:00 AM			68			68			68	
9:15 AM			53			53			53	
9:30 AM			65			65			65	
9:45 AM			73			73			73	
10:00 AM			60			60			60	
10:15 AM			68			68			68	
10:30 AM			58			58			58	
10:45 AM			78			78			78	
11:00 AM			59			59			59	
11:15 AM			59			59			59	
11:30 AM			63			63			63	
11:45 AM			68			68			68	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 2. A St btwn 7th St & 6th St/Santa Rosa Plaza
QC JOB #: 14851018
SPECIFIC LOCATION: 2. A St btwn 7th St & 6th St/Santa Rosa Plaza
DIRECTION: EB/WB
CITY/STATE: Santa Rosa, CA
DATE: Nov 28 2018 - Nov 28 2018

Start Time	Mon	Tue	Wed 28-Nov-18	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM			92			92			92	
12:15 PM			84			84			84	
12:30 PM			68			68			68	
12:45 PM			78			78			78	
1:00 PM			89			89			89	
1:15 PM			74			74			74	
1:30 PM			65			65			65	
1:45 PM			75			75			75	
2:00 PM			83			83			83	
2:15 PM			62			62			62	
2:30 PM			87			87			87	
2:45 PM			84			84			84	
3:00 PM			111			111			111	
3:15 PM			109			109			109	
3:30 PM			85			85			85	
3:45 PM			85			85			85	
4:00 PM			80			80			80	
4:15 PM			88			88			88	
4:30 PM			116			116			116	
4:45 PM			90			90			90	
5:00 PM			**153**			**153**			**153**	
5:15 PM			117			117			117	
5:30 PM			95			95			95	
5:45 PM			103			103			103	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 2. A St btwn 7th St & 6th St/Santa Rosa Plaza
QC JOB #: 14851018
SPECIFIC LOCATION: 2. A St btwn 7th St & 6th St/Santa Rosa Plaza
DIRECTION: EB/WB
CITY/STATE: Santa Rosa, CA
DATE: Nov 28 2018 - Nov 28 2018

Start Time	Mon	Tue	Wed 28-Nov-18	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM			72			72			72	
6:15 PM			51			51			51	
6:30 PM			64			64			64	
6:45 PM			69			69			69	
7:00 PM			51			51			51	
7:15 PM			52			52			52	
7:30 PM			53			53			53	
7:45 PM			45			45			45	
8:00 PM			49			49			49	
8:15 PM			46			46			46	
8:30 PM			38			38			38	
8:45 PM			30			30			30	
9:00 PM			31			31			31	
9:15 PM			24			24			24	
9:30 PM			11			11			11	
9:45 PM			12			12			12	
10:00 PM			19			19			19	
10:15 PM			17			17			17	
10:30 PM			14			14			14	
10:45 PM			12			12			12	
11:00 PM			7			7			7	
11:15 PM			7			7			7	
11:30 PM			5			5			5	
11:45 PM			4			4			4	
Day Total			4385			4385			4385	
% Weekday Average			100.0%							
% Week Average			100.0%			100.0%				
AM Peak			8:00 AM			8:00 AM			8:00 AM	
Volume			87			87			87	
PM Peak			5:00 PM			5:00 PM			5:00 PM	
Volume			153			153			153	

Comments:

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

LOCATION: 3. Morgan St btwn 7th St & 6th St
QC JOB #: 14851019
SPECIFIC LOCATION: 3. Morgan St btwn 7th St & 6th St
DIRECTION: WB
CITY/STATE: Santa Rosa, CA
DATE: Nov 28 2018 - Nov 28 2018

Start Time	Mon	Tue	Wed 28-Nov-18	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			1			1			1	
12:15 AM			2			2			2	
12:30 AM			3			3			3	
12:45 AM			1			1			1	
1:00 AM			1			1			1	
1:15 AM			2			2			2	
1:30 AM			0			0			0	
1:45 AM			1			1			1	
2:00 AM			1			1			1	
2:15 AM			1			1			1	
2:30 AM			0			0			0	
2:45 AM			2			2			2	
3:00 AM			4			4			4	
3:15 AM			0			0			0	
3:30 AM			2			2			2	
3:45 AM			1			1			1	
4:00 AM			3			3			3	
4:15 AM			0			0			0	
4:30 AM			1			1			1	
4:45 AM			5			5			5	
5:00 AM			4			4			4	
5:15 AM			6			6			6	
5:30 AM			5			5			5	
5:45 AM			13			13			13	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 3. Morgan St btwn 7th St & 6th St
QC JOB #: 14851019
SPECIFIC LOCATION: 3. Morgan St btwn 7th St & 6th St
DIRECTION: WB
CITY/STATE: Santa Rosa, CA
DATE: Nov 28 2018 - Nov 28 2018

Start Time	Mon	Tue	Wed 28-Nov-18	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM			9			9			9	
6:15 AM			10			10			10	
6:30 AM			14			14			14	
6:45 AM			32			32			32	
7:00 AM			20			20			20	
7:15 AM			30			30			30	
7:30 AM			48			48			48	
7:45 AM			59			59			59	
8:00 AM			49			49			49	
8:15 AM			61			61			61	
8:30 AM			56			56			56	
8:45 AM			**86**			**86**			**86**	
9:00 AM			44			44			44	
9:15 AM			24			24			24	
9:30 AM			19			19			19	
9:45 AM			35			35			35	
10:00 AM			24			24			24	
10:15 AM			23			23			23	
10:30 AM			28			28			28	
10:45 AM			28			28			28	
11:00 AM			20			20			20	
11:15 AM			32			32			32	
11:30 AM			30			30			30	
11:45 AM			37			37			37	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: 3. Morgan St btwn 7th St & 6th St
QC JOB #: 14851019
SPECIFIC LOCATION: 3. Morgan St btwn 7th St & 6th St
DIRECTION: WB
CITY/STATE: Santa Rosa, CA
DATE: Nov 28 2018 - Nov 28 2018

Start Time	Mon	Tue	Wed 28-Nov-18	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM			28			28			28	
12:15 PM			43			43			43	
12:30 PM			29			29			29	
12:45 PM			39			39			39	
1:00 PM			30			30			30	
1:15 PM			33			33			33	
1:30 PM			26			26			26	
1:45 PM			33			33			33	
2:00 PM			28			28			28	
2:15 PM			27			27			27	
2:30 PM			32			32			32	
2:45 PM			40			40			40	
3:00 PM			32			32			32	
3:15 PM			28			28			28	
3:30 PM			36			36			36	
3:45 PM			53			53			53	
4:00 PM			54			54			54	
4:15 PM			38			38			38	
4:30 PM			40			40			40	
4:45 PM			46			46			46	
5:00 PM			**71**			**71**			**71**	
5:15 PM			60			60			60	
5:30 PM			41			41			41	
5:45 PM			37			37			37	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 3. Morgan St btwn 7th St & 6th St
QC JOB #: 14851019
SPECIFIC LOCATION: 3. Morgan St btwn 7th St & 6th St
DIRECTION: WB
CITY/STATE: Santa Rosa, CA
DATE: Nov 28 2018 - Nov 28 2018

Start Time	Mon	Tue	Wed 28-Nov-18	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM			26			26			26	
6:15 PM			53			53			53	
6:30 PM			24			24			24	
6:45 PM			27			27			27	
7:00 PM			25			25			25	
7:15 PM			29			29			29	
7:30 PM			28			28			28	
7:45 PM			21			21			21	
8:00 PM			19			19			19	
8:15 PM			12			12			12	
8:30 PM			15			15			15	
8:45 PM			9			9			9	
9:00 PM			11			11			11	
9:15 PM			18			18			18	
9:30 PM			18			18			18	
9:45 PM			12			12			12	
10:00 PM			6			6			6	
10:15 PM			11			11			11	
10:30 PM			5			5			5	
10:45 PM			7			7			7	
11:00 PM			2			2			2	
11:15 PM			6			6			6	
11:30 PM			2			2			2	
11:45 PM			2			2			2	
Day Total			2189			2189			2189	
% Weekday Average			100.0%							
% Week Average			100.0%			100.0%				
AM Peak			8:45 AM			8:45 AM			8:45 AM	
Volume			86			86			86	
PM Peak			5:00 PM			5:00 PM			5:00 PM	
Volume			71			71			71	

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 4. 7th St btwn Morgan St & A St
QC JOB #: 14851020
SPECIFIC LOCATION: 4. 7th St btwn Morgan St & A St
DIRECTION: EB/WB
CITY/STATE: Santa Rosa, CA
DATE: Nov 28 2018 - Nov 28 2018

Start Time	Mon	Tue	Wed 28-Nov-18	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			0			0			0	
12:15 AM			0			0			0	
12:30 AM			0			0			0	
12:45 AM			2			2			2	
1:00 AM			0			0			0	
1:15 AM			1			1			1	
1:30 AM			0			0			0	
1:45 AM			0			0			0	
2:00 AM			0			0			0	
2:15 AM			0			0			0	
2:30 AM			0			0			0	
2:45 AM			0			0			0	
3:00 AM			0			0			0	
3:15 AM			0			0			0	
3:30 AM			0			0			0	
3:45 AM			0			0			0	
4:00 AM			0			0			0	
4:15 AM			0			0			0	
4:30 AM			0			0			0	
4:45 AM			2			2			2	
5:00 AM			0			0			0	
5:15 AM			3			3			3	
5:30 AM			1			1			1	
5:45 AM			1			1			1	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 4. 7th St btwn Morgan St & A St

QC JOB #: 14851020

SPECIFIC LOCATION: 4. 7th St btwn Morgan St & A St

DIRECTION: EB/WB

CITY/STATE: Santa Rosa, CA

DATE: Nov 28 2018 - Nov 28 2018

Start Time	Mon	Tue	Wed 28-Nov-18	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM			1			1			1	
6:15 AM			0			0			0	
6:30 AM			3			3			3	
6:45 AM			3			3			3	
7:00 AM			2			2			2	
7:15 AM			3			3			3	
7:30 AM			2			2			2	
7:45 AM			5			5			5	
8:00 AM			9			9			9	
8:15 AM			9			9			9	
8:30 AM			5			5			5	
8:45 AM			6			6			6	
9:00 AM			8			8			8	
9:15 AM			**15**			**15**			**15**	
9:30 AM			5			5			5	
9:45 AM			6			6			6	
10:00 AM			10			10			10	
10:15 AM			4			4			4	
10:30 AM			5			5			5	
10:45 AM			6			6			6	
11:00 AM			7			7			7	
11:15 AM			8			8			8	
11:30 AM			8			8			8	
11:45 AM			7			7			7	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 4. 7th St btwn Morgan St & A St
QC JOB #: 14851020
SPECIFIC LOCATION: 4. 7th St btwn Morgan St & A St
DIRECTION: EB/WB
CITY/STATE: Santa Rosa, CA
DATE: Nov 28 2018 - Nov 28 2018

Start Time	Mon	Tue	Wed 28-Nov-18	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM			6			6			6	
12:15 PM			5			5			5	
12:30 PM			4			4			4	
12:45 PM			4			4			4	
1:00 PM			11			11			11	
1:15 PM			5			5			5	
1:30 PM			5			5			5	
1:45 PM			6			6			6	
2:00 PM			6			6			6	
2:15 PM			6			6			6	
2:30 PM			5			5			5	
2:45 PM			7			7			7	
3:00 PM			3			3			3	
3:15 PM			10			10			10	
3:30 PM			3			3			3	
3:45 PM			8			8			8	
4:00 PM			6			6			6	
4:15 PM			6			6			6	
4:30 PM			5			5			5	
4:45 PM			10			10			10	
5:00 PM			**13**			**13**			**13**	
5:15 PM			7			7			7	
5:30 PM			6			6			6	
5:45 PM			11			11			11	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 4. 7th St btwn Morgan St & A St
QC JOB #: 14851020
SPECIFIC LOCATION: 4. 7th St btwn Morgan St & A St
DIRECTION: EB/WB
CITY/STATE: Santa Rosa, CA
DATE: Nov 28 2018 - Nov 28 2018

Start Time	Mon	Tue	Wed 28-Nov-18	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM			5			5			5	
6:15 PM			2			2			2	
6:30 PM			4			4			4	
6:45 PM			3			3			3	
7:00 PM			6			6			6	
7:15 PM			2			2			2	
7:30 PM			2			2			2	
7:45 PM			1			1			1	
8:00 PM			1			1			1	
8:15 PM			4			4			4	
8:30 PM			5			5			5	
8:45 PM			3			3			3	
9:00 PM			5			5			5	
9:15 PM			2			2			2	
9:30 PM			2			2			2	
9:45 PM			2			2			2	
10:00 PM			2			2			2	
10:15 PM			2			2			2	
10:30 PM			1			1			1	
10:45 PM			1			1			1	
11:00 PM			0			0			0	
11:15 PM			0			0			0	
11:30 PM			1			1			1	
11:45 PM			1			1			1	
Day Total			362			362			362	
% Weekday Average			100.0%							
% Week Average			100.0%			100.0%				
AM Peak			9:15 AM			9:15 AM			9:15 AM	
Volume			15			15			15	
PM Peak			5:00 PM			5:00 PM			5:00 PM	
Volume			13			13			13	

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 5. 7th St btwn A St & B St
QC JOB #: 14851021
SPECIFIC LOCATION: 5. 7th St btwn A St & B St
DIRECTION: EB/WB
CITY/STATE: Santa Rosa, CA
DATE: Nov 28 2018 - Nov 28 2018

Start Time	Mon	Tue	Wed 28-Nov-18	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			3			3			3	
12:15 AM			7			7			7	
12:30 AM			1			1			1	
12:45 AM			0			0			0	
1:00 AM			3			3			3	
1:15 AM			3			3			3	
1:30 AM			0			0			0	
1:45 AM			0			0			0	
2:00 AM			0			0			0	
2:15 AM			1			1			1	
2:30 AM			1			1			1	
2:45 AM			1			1			1	
3:00 AM			1			1			1	
3:15 AM			0			0			0	
3:30 AM			0			0			0	
3:45 AM			0			0			0	
4:00 AM			0			0			0	
4:15 AM			0			0			0	
4:30 AM			0			0			0	
4:45 AM			2			2			2	
5:00 AM			5			5			5	
5:15 AM			8			8			8	
5:30 AM			10			10			10	
5:45 AM			8			8			8	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: 5. 7th St btwn A St & B St
QC JOB #: 14851021
SPECIFIC LOCATION: 5. 7th St btwn A St & B St
DIRECTION: EB/WB
CITY/STATE: Santa Rosa, CA
DATE: Nov 28 2018 - Nov 28 2018

Start Time	Mon	Tue	Wed 28-Nov-18	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM			7			7			7	
6:15 AM			4			4			4	
6:30 AM			16			16			16	
6:45 AM			34			34			34	
7:00 AM			55			55			55	
7:15 AM			57			57			57	
7:30 AM			90			90			90	
7:45 AM			**179**			**179**			**179**	
8:00 AM			124			124			124	
8:15 AM			107			107			107	
8:30 AM			86			86			86	
8:45 AM			96			96			96	
9:00 AM			31			31			31	
9:15 AM			37			37			37	
9:30 AM			40			40			40	
9:45 AM			43			43			43	
10:00 AM			47			47			47	
10:15 AM			52			52			52	
10:30 AM			33			33			33	
10:45 AM			43			43			43	
11:00 AM			39			39			39	
11:15 AM			23			23			23	
11:30 AM			33			33			33	
11:45 AM			49			49			49	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 5. 7th St btwn A St & B St
QC JOB #: 14851021
SPECIFIC LOCATION: 5. 7th St btwn A St & B St
DIRECTION: EB/WB
CITY/STATE: Santa Rosa, CA
DATE: Nov 28 2018 - Nov 28 2018

Start Time	Mon	Tue	Wed 28-Nov-18	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM			40			40			40	
12:15 PM			51			51			51	
12:30 PM			38			38			38	
12:45 PM			57			57			57	
1:00 PM			63			63			63	
1:15 PM			46			46			46	
1:30 PM			105			105			105	
1:45 PM			102			102			102	
2:00 PM			113			113			113	
2:15 PM			101			101			101	
2:30 PM			133			133			133	
2:45 PM			114			114			114	
3:00 PM			192			192			192	
3:15 PM			152			152			152	
3:30 PM			112			112			112	
3:45 PM			125			125			125	
4:00 PM			109			109			109	
4:15 PM			122			122			122	
4:30 PM			159			159			159	
4:45 PM			144			144			144	
5:00 PM			**217**			**217**			**217**	
5:15 PM			177			177			177	
5:30 PM			157			157			157	
5:45 PM			152			152			152	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: 5. 7th St btwn A St & B St
QC JOB #: 14851021
SPECIFIC LOCATION: 5. 7th St btwn A St & B St
DIRECTION: EB/WB
CITY/STATE: Santa Rosa, CA
DATE: Nov 28 2018 - Nov 28 2018

Start Time	Mon	Tue	Wed 28-Nov-18	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM			137			137			137	
6:15 PM			146			146			146	
6:30 PM			96			96			96	
6:45 PM			142			142			142	
7:00 PM			59			59			59	
7:15 PM			88			88			88	
7:30 PM			70			70			70	
7:45 PM			83			83			83	
8:00 PM			64			64			64	
8:15 PM			65			65			65	
8:30 PM			59			59			59	
8:45 PM			51			51			51	
9:00 PM			17			17			17	
9:15 PM			11			11			11	
9:30 PM			5			5			5	
9:45 PM			5			5			5	
10:00 PM			10			10			10	
10:15 PM			6			6			6	
10:30 PM			8			8			8	
10:45 PM			7			7			7	
11:00 PM			2			2			2	
11:15 PM			1			1			1	
11:30 PM			5			5			5	
11:45 PM			2			2			2	
Day Total			5299			5299			5299	
% Weekday Average			100.0%							
% Week Average			100.0%			100.0%				
AM Peak			7:45 AM			7:45 AM			7:45 AM	
Volume			179			179			179	
PM Peak			5:00 PM			5:00 PM			5:00 PM	
Volume			217			217			217	

Comments:

LOCATION: 6. A St btwn 8th St & 7th St

QC JOB #: 14851022

SPECIFIC LOCATION: 6. A St btwn 8th St & 7th St

DIRECTION: NB/SB

CITY/STATE: Santa Rosa, CA

DATE: Nov 28 2018 - Nov 28 2018

Start Time	Mon	Tue	Wed 28-Nov-18	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			4			4			4	
12:15 AM			5			5			5	
12:30 AM			3			3			3	
12:45 AM			2			2			2	
1:00 AM			3			3			3	
1:15 AM			1			1			1	
1:30 AM			0			0			0	
1:45 AM			0			0			0	
2:00 AM			1			1			1	
2:15 AM			2			2			2	
2:30 AM			1			1			1	
2:45 AM			1			1			1	
3:00 AM			0			0			0	
3:15 AM			0			0			0	
3:30 AM			0			0			0	
3:45 AM			0			0			0	
4:00 AM			0			0			0	
4:15 AM			0			0			0	
4:30 AM			0			0			0	
4:45 AM			0			0			0	
5:00 AM			5			5			5	
5:15 AM			1			1			1	
5:30 AM			6			6			6	
5:45 AM			2			2			2	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 6. A St btwn 8th St & 7th St
QC JOB #: 14851022
SPECIFIC LOCATION: 6. A St btwn 8th St & 7th St
DIRECTION: NB/SB
CITY/STATE: Santa Rosa, CA
DATE: Nov 28 2018 - Nov 28 2018

Start Time	Mon	Tue	Wed 28-Nov-18	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM			6			6			6	
6:15 AM			8			8			8	
6:30 AM			9			9			9	
6:45 AM			21			21			21	
7:00 AM			22			22			22	
7:15 AM			28			28			28	
7:30 AM			58			58			58	
7:45 AM			**99**			**99**			**99**	
8:00 AM			75			75			75	
8:15 AM			50			50			50	
8:30 AM			53			53			53	
8:45 AM			41			41			41	
9:00 AM			40			40			40	
9:15 AM			49			49			49	
9:30 AM			38			38			38	
9:45 AM			41			41			41	
10:00 AM			42			42			42	
10:15 AM			46			46			46	
10:30 AM			25			25			25	
10:45 AM			49			49			49	
11:00 AM			47			47			47	
11:15 AM			30			30			30	
11:30 AM			51			51			51	
11:45 AM			45			45			45	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: 6. A St btwn 8th St & 7th St
QC JOB #: 14851022
SPECIFIC LOCATION: 6. A St btwn 8th St & 7th St
DIRECTION: NB/SB
CITY/STATE: Santa Rosa, CA
DATE: Nov 28 2018 - Nov 28 2018

Start Time	Mon	Tue	Wed 28-Nov-18	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM			46			46			46	
12:15 PM			49			49			49	
12:30 PM			49			49			49	
12:45 PM			54			54			54	
1:00 PM			53			53			53	
1:15 PM			49			49			49	
1:30 PM			60			60			60	
1:45 PM			44			44			44	
2:00 PM			42			42			42	
2:15 PM			48			48			48	
2:30 PM			61			61			61	
2:45 PM			61			61			61	
3:00 PM			94			94			94	
3:15 PM			80			80			80	
3:30 PM			57			57			57	
3:45 PM			72			72			72	
4:00 PM			58			58			58	
4:15 PM			69			69			69	
4:30 PM			88			88			88	
4:45 PM			65			65			65	
5:00 PM			94			94			94	
5:15 PM			**102**			**102**			**102**	
5:30 PM			90			90			90	
5:45 PM			75			75			75	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 6. A St btwn 8th St & 7th St
QC JOB #: 14851022
SPECIFIC LOCATION: 6. A St btwn 8th St & 7th St
DIRECTION: NB/SB
CITY/STATE: Santa Rosa, CA
DATE: Nov 28 2018 - Nov 28 2018

Start Time	Mon	Tue	Wed 28-Nov-18	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM			49			49			49	
6:15 PM			38			38			38	
6:30 PM			37			37			37	
6:45 PM			33			33			33	
7:00 PM			29			29			29	
7:15 PM			33			33			33	
7:30 PM			26			26			26	
7:45 PM			26			26			26	
8:00 PM			35			35			35	
8:15 PM			21			21			21	
8:30 PM			25			25			25	
8:45 PM			24			24			24	
9:00 PM			14			14			14	
9:15 PM			20			20			20	
9:30 PM			10			10			10	
9:45 PM			9			9			9	
10:00 PM			8			8			8	
10:15 PM			11			11			11	
10:30 PM			6			6			6	
10:45 PM			15			15			15	
11:00 PM			6			6			6	
11:15 PM			4			4			4	
11:30 PM			5			5			5	
11:45 PM			3			3			3	
Day Total			3057			3057			3057	
% Weekday Average			100.0%							
% Week Average			100.0%			100.0%				
AM Peak Volume			7:45 AM 99			7:45 AM 99			7:45 AM 99	
PM Peak Volume			5:15 PM 102			5:15 PM 102			5:15 PM 102	

Comments:

Report generated on 12/4/2018 3:02 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Prepared by NDS/ATD

VOLUME

6th St Bet. Morgan St & A St

Day: Tuesday
Date: 1/22/2019

City: Santa Rosa
Project #: CA19_8015_001

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,367	2,988	5,355

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			2		4		6		12:00			53		50		103	
00:15			3		1		4		12:15			44		59		103	
00:30			1		0		1		12:30			54		58		112	
00:45			0	6	0	5	0	11	12:45			48	199	56	223	104	422
01:00			4		0		4		13:00			50		54		104	
01:15			2		0		2		13:15			41		48		89	
01:30			0		3		3		13:30			39		65		104	
01:45			0	6	2	5	2	11	13:45			35	165	49	216	84	381
02:00			1		1		2		14:00			30		51		81	
02:15			0		0		0		14:15			44		61		105	
02:30			0		1		1		14:30			54		65		119	
02:45			1	2	0	2	1	4	14:45			57	185	51	228	108	413
03:00			0		2		2		15:00			33		80		113	
03:15			0		1		1		15:15			33		79		112	
03:30			1		1		2		15:30			48		52		100	
03:45			0	1	1	5	1	6	15:45			42	156	57	268	99	424
04:00			1		0		1		16:00			33		98		131	
04:15			0		1		1		16:15			35		71		106	
04:30			0		1		1		16:30			35		68		103	
04:45			0	1	2	4	2	5	16:45			57	160	87	324	144	484
05:00			3		3		6		17:00			51		107		158	
05:15			3		2		5		17:15			64		105		169	
05:30			11		9		20		17:30			41		81		122	
05:45			6	23	5	19	11	42	17:45			41	197	75	368	116	565
06:00			6		8		14		18:00			41		54		95	
06:15			11		8		19		18:15			42		56		98	
06:30			18		5		23		18:30			38		52		90	
06:45			22	57	15	36	37	93	18:45			33	154	48	210	81	364
07:00			36		14		50		19:00			22		39		61	
07:15			19		24		43		19:15			20		29		49	
07:30			34		32		66		19:30			26		23		49	
07:45			67	156	38	108	105	264	19:45			17	85	30	121	47	206
08:00			51		46		97		20:00			22		26		48	
08:15			52		33		85		20:15			21		37		58	
08:30			45		24		69		20:30			15		28		43	
08:45			43	191	23	126	66	317	20:45			17	75	26	117	43	192
09:00			48		27		75		21:00			15		20		35	
09:15			33		35		68		21:15			13		13		26	
09:30			36		39		75		21:30			6		15		21	
09:45			42	159	32	133	74	292	21:45			10	44	13	61	23	105
10:00			37		35		72		22:00			8		10		18	
10:15			32		44		76		22:15			5		9		14	
10:30			37		45		82		22:30			4		6		10	
10:45			46	152	27	151	73	303	22:45			3	20	10	35	13	55
11:00			32		59		91		23:00			5		5		10	
11:15			32		50		82		23:15			5		6		11	
11:30			36		41		77		23:30			1		4		5	
11:45			61	161	57	207	118	368	23:45			1	12	1	16	2	28
TOTALS				915		801		**1716**	**TOTALS**				1452		2187		**3639**
SPLIT %				53.3%		46.7%		**32.0%**	**SPLIT %**				39.9%		60.1%		**68.0%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,367	2,988	5,355

AM Peak Hour				07:45		11:45		**11:45**	**PM Peak Hour**				16:45		16:45		**16:45**
AM Pk Volume				215		224		**436**	**PM Pk Volume**				213		380		**593**
Pk Hr Factor				0.802		0.949		**0.924**	**Pk Hr Factor**				0.832		0.888		**0.877**
7 - 9 Volume	0	0		347		234		**581**	**4 - 6 Volume**	0	0		357		692		**1049**
7 - 9 Peak Hour				07:45		07:30		**07:45**	**4 - 6 Peak Hour**				16:45		16:45		**16:45**
7 - 9 Pk Volume	0	0		215		149		**356**	**4 - 6 Pk Volume**	0	0		213		380		**593**
Pk Hr Factor	0.000	0.000		0.802		0.810		**0.848**	**Pk Hr Factor**	0.000	0.000		0.832		0.888		**0.877**

Prepared by NDS/ATD

VOLUME

A St Bet. 7th St & 6th St/Santa Rosa Plaza

Day: Tuesday
Date: 1/22/2019

City: Santa Rosa
Project #: CA19_8015_002

DAILY TOTALS	NB	SB	EB	WB	Total
	1,795	2,609	0	0	4,404

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	3		4				7		12:00	43		45				88	
00:15	3		1				4		12:15	28		48				76	
00:30	1		0				1		12:30	40		55				95	
00:45	0	7	0	5			0	12	12:45	40	151	43	191			83	342
01:00	2		0				2		13:00	39		47				86	
01:15	0		1				1		13:15	31		46				77	
01:30	0		3				3		13:30	26		51				77	
01:45	0	2	3	7			3	9	13:45	22	118	35	179			57	297
02:00	1		0				1		14:00	30		43				73	
02:15	0		0				0		14:15	31		42				73	
02:30	0		1				1		14:30	35		54				89	
02:45	1	2	0	1			1	3	14:45	40	136	42	181			82	317
03:00	0		2				2		15:00	21		65				86	
03:15	0		1				1		15:15	23		69				92	
03:30	0		1				1		15:30	33		44				77	
03:45	0		1	5			1	5	15:45	31	108	53	231			84	339
04:00	1		0				1		16:00	27		90				117	
04:15	0		1				1		16:15	31		68				99	
04:30	0		0				0		16:30	27		64				91	
04:45	0	1	3	4			3	5	16:45	47	132	77	299			124	431
05:00	1		1				2		17:00	40		99				139	
05:15	3		2				5		17:15	44		86				130	
05:30	8		9				17		17:30	33		76				109	
05:45	2	14	6	18			8	32	17:45	38	155	67	328			105	483
06:00	6		8				14		18:00	24		47				71	
06:15	6		9				15		18:15	36		50				86	
06:30	11		4				15		18:30	28		44				72	
06:45	22	45	13	34			35	79	18:45	27	115	46	187			73	302
07:00	30		21				51		19:00	20		40				60	
07:15	17		19				36		19:15	15		21				36	
07:30	30		26				56		19:30	18		24				42	
07:45	61	138	33	99			94	237	19:45	13	66	19	104			32	170
08:00	41		41				82		20:00	15		19				34	
08:15	41		32				73		20:15	18		23				41	
08:30	40		22				62		20:30	9		22				31	
08:45	32	154	23	118			55	272	20:45	11	53	21	85			32	138
09:00	29		20				49		21:00	12		24				36	
09:15	25		36				61		21:15	9		8				17	
09:30	24		32				56		21:30	4		13				17	
09:45	31	109	28	116			59	225	21:45	7	32	8	53			15	85
10:00	21		30				51		22:00	4		10				14	
10:15	25		39				64		22:15	5		12				17	
10:30	28		39				67		22:30	4		5				9	
10:45	36	110	25	133			61	243	22:45	3	16	9	36			12	52
11:00	26		48				74		23:00	4		4				8	
11:15	26		45				71		23:15	4		4				8	
11:30	30		39				69		23:30	2		4				6	
11:45	38	120	50	182			88	302	23:45	1	11	1	13			2	24
TOTALS		702		722				**1424**	**TOTALS**		1093		1887				**2980**
SPLIT %		49.3%		50.7%				**32.3%**	**SPLIT %**		36.7%		63.3%				**67.7%**

DAILY TOTALS	NB	SB	EB	WB	Total
	1,795	2,609	0	0	4,404

AM Peak Hour	07:45	11:45						**11:45**	**PM Peak Hour**	16:45	16:45							**16:45**
AM Pk Volume	183	198						**347**	**PM Pk Volume**	164	338							**502**
Pk Hr Factor	0.750	0.900						**0.913**	**Pk Hr Factor**	0.872	0.854							**0.903**
7 - 9 Volume	292	217	0	0				**509**	**4 - 6 Volume**	287	627	0	0					**914**
7 - 9 Peak Hour	07:45	07:30						**07:45**	**4 - 6 Peak Hour**	16:45	16:45							**16:45**
7 - 9 Pk Volume	183	132	0	0				**311**	**4 - 6 Pk Volume**	164	338	0	0					**502**
Pk Hr Factor	0.750	0.805	0.000	0.000				**0.827**	**Pk Hr Factor**	0.872	0.854	0.000	0.000					**0.903**

Prepared by NDS/ATD

VOLUME

Morgan St Bet. 7th St & 6th St

Day: Tuesday
Date: 1/22/2019

City: Santa Rosa
Project #: CA19_8015_003

DAILY TOTALS	NB	SB	EB	WB	Total
	1,910	0	0	0	1,910

AM Period	NB		SB	EB	WB	TOTAL		PM Period	NB		SB	EB	WB	TOTAL	
00:00	0		0			0		12:00	31		0			31	
00:15	0		0			0		12:15	32		0			32	
00:30	1		0			1		12:30	23		0			23	
00:45	1	2	0			1	2	12:45	27	113	0			27	113
01:00	1		0			1		13:00	28		0			28	
01:15	1		0			1		13:15	26		0			26	
01:30	0		0			0		13:30	26		0			26	
01:45	2	4	0			2	4	13:45	43	123	0			43	123
02:00	2		0			2		14:00	14		0			14	
02:15	0		0			0		14:15	34		0			34	
02:30	0		0			0		14:30	49		0			49	
02:45	0	2	0			0	2	14:45	35	132	0			35	132
03:00	1		0			1		15:00	41		0			41	
03:15	0		0			0		15:15	37		0			37	
03:30	4		0			4		15:30	32		0			32	
03:45	1	6	0			1	6	15:45	42	152	0			42	152
04:00	2		0			2		16:00	38		0			38	
04:15	1		0			1		16:15	27		0			27	
04:30	1		0			1		16:30	50		0			50	
04:45	2	6	0			2	6	16:45	18	133	0			18	133
05:00	5		0			5		17:00	65		0			65	
05:15	4		0			4		17:15	65		0			65	
05:30	2		0			2		17:30	49		0			49	
05:45	12	23	0			12	23	17:45	28	207	0			28	207
06:00	3		0			3		18:00	22		0			22	
06:15	6		0			6		18:15	32		0			32	
06:30	9		0			9		18:30	23		0			23	
06:45	12	30	0			12	30	18:45	30	107	0			30	107
07:00	11		0			11		19:00	23		0			23	
07:15	24		0			24		19:15	16		0			16	
07:30	39		0			39		19:30	17		0			17	
07:45	65	139	0			65	139	19:45	11	67	0			11	67
08:00	76		0			76		20:00	21		0			21	
08:15	41		0			41		20:15	18		0			18	
08:30	44		0			44		20:30	19		0			19	
08:45	59	220	0			59	220	20:45	12	70	0			12	70
09:00	27		0			27		21:00	17		0			17	
09:15	28		0			28		21:15	9		0			9	
09:30	20		0			20		21:30	12		0			12	
09:45	15	90	0			15	90	21:45	10	48	0			10	48
10:00	19		0			19		22:00	3		0			3	
10:15	22		0			22		22:15	8		0			8	
10:30	28		0			28		22:30	1		0			1	
10:45	28	97	0			28	97	22:45	8	20	0			8	20
11:00	23		0			23		23:00	1		0			1	
11:15	34		0			34		23:15	5		0			5	
11:30	20		0			20		23:30	2		0			2	
11:45	30	107	0			30	107	23:45	4	12	0			4	12
TOTALS		726					726	TOTALS		1184					1184
SPLIT %		100.0%					38.0%	SPLIT %		100.0%					62.0%

DAILY TOTALS	NB	SB	EB	WB	Total
	1,910	0	0	0	1,910

AM Peak Hour	07:45				07:45	PM Peak Hour	17:00				17:00
AM Pk Volume	226				226	PM Pk Volume	207				207
Pk Hr Factor	0.743				0.743	Pk Hr Factor	0.796				0.796
7 - 9 Volume	359	0	0	0	359	4 - 6 Volume	340	0	0	0	340
7 - 9 Peak Hour	07:45				07:45	4 - 6 Peak Hour	17:00				17:00
7 - 9 Pk Volume	226	0	0	0	226	4 - 6 Pk Volume	207	0	0	0	207
Pk Hr Factor	0.743	0.000	0.000	0.000	0.743	Pk Hr Factor	0.796	0.000	0.000	0.000	0.796

Prepared by NDS/ATD

VOLUME

7th St Bet. Morgan St & A St

Day: Tuesday
Date: 1/22/2019

City: Santa Rosa
Project #: CA19_8015_004

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	185	162	347

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00					0		0		0		12:00					3		0		3	
00:15					0		0		0		12:15					6		3		9	
00:30					0		0		0		12:30					3		2		5	
00:45					0		1	1	1	1	12:45					2	14	2	7	4	21
01:00					0		0		0		13:00					3		5		8	
01:15					0		0		0		13:15					5		1		6	
01:30					0		0		0		13:30					1		3		4	
01:45					0		0		0		13:45					3	12	2	11	5	23
02:00					0		0		0		14:00					2		1		3	
02:15					0		0		0		14:15					4		2		6	
02:30					0		0		0		14:30					3		4		7	
02:45					0		1	1	1	1	14:45					3	12	4	11	7	23
03:00					0		0		0		15:00					3		4		7	
03:15					0		0		0		15:15					3		7		10	
03:30					0		0		0		15:30					3		3		6	
03:45					0		0		0		15:45					4	13	1	15	5	28
04:00					0		0		0		16:00					6		2		8	
04:15					0		0		0		16:15					1		2		3	
04:30					1		1		2		16:30					5		5		10	
04:45					0	1	0	1	0	2	16:45					4	16	1	10	5	26
05:00					0		0		0		17:00					4		3		7	
05:15					1		0		1		17:15					3		4		7	
05:30					1		0		1		17:30					2		1		3	
05:45					0	2	1	1	1	3	17:45					0	9	3	11	3	20
06:00					2		1		3		18:00					0		1		1	
06:15					1		0		1		18:15					2		0		2	
06:30					1		0		1		18:30					0		3		3	
06:45					0	4	0	1	0	5	18:45					3	5	1	5	4	10
07:00					3		1		4		19:00					2		7		9	
07:15					1		0		1		19:15					2		8		10	
07:30					4		0		4		19:30					3		2		5	
07:45					4	12	1	2	5	14	19:45					0	7	1	18	1	25
08:00					1		3		4		20:00					0		0		0	
08:15					4		1		5		20:15					2		2		4	
08:30					6		5		11		20:30					1		2		3	
08:45					3	14	2	11	5	25	20:45					1	4	1	5	2	9
09:00					3		2		5		21:00					1		2		3	
09:15					1		5		6		21:15					1		0		1	
09:30					8		3		11		21:30					0		0		0	
09:45					3	15	4	14	7	29	21:45					1	3	2	4	3	7
10:00					3		1		4		22:00					0		3		3	
10:15					5		3		8		22:15					1		2		3	
10:30					5		2		7		22:30					0		0		0	
10:45					3	16	2	8	5	24	22:45					1	2	1	6	2	8
11:00					2		5		7		23:00					1		0		1	
11:15					8		6		14		23:15					0		0		0	
11:30					8		4		12		23:30					0		0		0	
11:45					4	22	4	19	8	41	23:45					1	2	0		1	2
TOTALS						86		59		**145**	**TOTALS**						99		103		**202**
SPLIT %						59.3%		40.7%		**41.8%**	**SPLIT %**						49.0%		51.0%		**58.2%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	185	162	347

AM Peak Hour			11:15	11:00	**11:00**	**PM Peak Hour**			15:15	14:30	**14:30**
AM Pk Volume			23	19	**41**	**PM Pk Volume**			16	19	**31**
Pk Hr Factor			0.719	0.792	**0.732**	**Pk Hr Factor**			0.667	0.679	**0.775**
7 - 9 Volume	0	0	26	13	**39**	**4 - 6 Volume**	0	0	25	21	**46**
7 - 9 Peak Hour			07:45	08:00	**07:45**	**4 - 6 Peak Hour**			16:00	16:30	**16:30**
7 - 9 Pk Volume	0	0	15	11	**25**	**4 - 6 Pk Volume**	0	0	16	13	**29**
Pk Hr Factor	0.000	0.000	0.625	0.550	**0.568**	**Pk Hr Factor**	0.000	0.000	0.667	0.650	**0.725**

Prepared by NDS/ATD

VOLUME

7th St Bet. A St & B St

Day: Tuesday
Date: 1/22/2019

City: Santa Rosa
Project #: CA19_8015_005

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,861	3,304	6,165

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			3		5		8		12:00			58		51		109	
00:15			2		1		3		12:15			51		54		105	
00:30			1		1		2		12:30			60		58		118	
00:45			0	6	0	7	0	13	12:45			66	235	53	216	119	451
01:00			3		0		3		13:00			51		54		105	
01:15			0		2		2		13:15			46		60		106	
01:30			0		5		5		13:30			45		55		100	
01:45			1	4	2	9	3	13	13:45			48	190	49	218	97	408
02:00			1		2		3		14:00			50		49		99	
02:15			0		0		0		14:15			56		53		109	
02:30			0		1		1		14:30			60		69		129	
02:45			1	2	0	3	1	5	14:45			62	228	58	229	120	457
03:00			1		1		2		15:00			49		106		155	
03:15			0		1		1		15:15			46		100		146	
03:30			0		0		0		15:30			50		62		112	
03:45			0	1	1	3	1	4	15:45			58	203	73	341	131	544
04:00			1		0		1		16:00			58		94		152	
04:15			0		1		1		16:15			62		83		145	
04:30			1		1		2		16:30			61		90		151	
04:45			1	3	0	2	1	5	16:45			79	260	81	348	160	608
05:00			1		2		3		17:00			78		126		204	
05:15			4		4		8		17:15			77		99		176	
05:30			12		5		17		17:30			55		103		158	
05:45			3	20	10	21	13	41	17:45			63	273	91	419	154	692
06:00			8		7		15		18:00			45		67		112	
06:15			12		7		19		18:15			46		53		99	
06:30			11		5		16		18:30			36		50		86	
06:45			36	67	17	36	53	103	18:45			32	159	54	224	86	383
07:00			40		18		58		19:00			27		49		76	
07:15			31		27		58		19:15			16		37		53	
07:30			66		40		106		19:30			24		30		54	
07:45			109	246	66	151	175	397	19:45			21	88	30	146	51	234
08:00			66		78		144		20:00			19		31		50	
08:15			54		50		104		20:15			18		27		45	
08:30			58		32		90		20:30			16		24		40	
08:45			49	227	40	200	89	427	20:45			17	70	25	107	42	177
09:00			45		34		79		21:00			13		22		35	
09:15			38		42		80		21:15			14		11		25	
09:30			38		39		77		21:30			7		18		25	
09:45			41	162	33	148	74	310	21:45			9	43	13	64	22	107
10:00			39		37		76		22:00			7		16		23	
10:15			35		42		77		22:15			8		12		20	
10:30			40		35		75		22:30			2		8		10	
10:45			47	161	37	151	84	312	22:45			4	21	9	45	13	66
11:00			41		54		95		23:00			3		4		7	
11:15			36		54		90		23:15			6		7		13	
11:30			48		38		86		23:30			1		4		5	
11:45			54	179	53	199	107	378	23:45			3	13	2	17	5	30
TOTALS				1078		930		**2008**	**TOTALS**				1783		2374		**4157**
SPLIT %				53.7%		46.3%		**32.6%**	**SPLIT %**				42.9%		57.1%		**67.4%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,861	3,304	6,165

AM Peak Hour			07:30	07:30	**07:30**	**PM Peak Hour**			16:30	17:00	**16:45**
AM Pk Volume			295	234	**529**	**PM Pk Volume**			295	419	**698**
Pk Hr Factor			0.677	0.750	**0.756**	**Pk Hr Factor**			0.934	0.831	**0.855**
7 - 9 Volume	0	0	473	351	**824**	**4 - 6 Volume**	0	0	533	767	**1300**
7 - 9 Peak Hour			07:30	07:30	**07:30**	**4 - 6 Peak Hour**			16:30	17:00	**16:45**
7 - 9 Pk Volume	0	0	295	234	**529**	**4 - 6 Pk Volume**	0	0	295	419	**698**
Pk Hr Factor	0.000	0.000	0.677	0.750	**0.756**	**Pk Hr Factor**	0.000	0.000	0.934	0.831	**0.855**

Prepared by NDS/ATD

VOLUME

A St Bet. 8th St & 7th St

Day: Tuesday
Date: 1/22/2019

City: Santa Rosa
Project #: CA19_8015_006

DAILY TOTALS	NB	SB	EB	WB	Total
	1,264	1,535	0	0	2,799

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	2		1				3		12:00	18		24				42	
00:15	1		0				1		12:15	18		28				46	
00:30	1		1				2		12:30	17		32				49	
00:45	0	4	1	3			1	7	12:45	22	75	35	119			57	194
01:00	0		1				1		13:00	23		29				52	
01:15	2		1				3		13:15	26		25				51	
01:30	2		0				2		13:30	16		30				46	
01:45	0	4	2	4			2	8	13:45	19	84	31	115			50	199
02:00	2		0				2		14:00	21		37				58	
02:15	0		0				0		14:15	21		25				46	
02:30	0		0				0		14:30	20		34				54	
02:45	0	2	1	1			1	3	14:45	25	87	28	124			53	211
03:00	1		3				4		15:00	51		35				86	
03:15	1		1				2		15:15	38		38				76	
03:30	0		1				1		15:30	30		29				59	
03:45	0	2	0	5			0	7	15:45	29	148	38	140			67	288
04:00	0		0				0		16:00	30		45				75	
04:15	0		0				0		16:15	28		37				65	
04:30	1		1				2		16:30	35		38				73	
04:45	0	1	2	3			2	4	16:45	32	125	53	173			85	298
05:00	1		0				1		17:00	37		44				81	
05:15	2		0				2		17:15	35		42				77	
05:30	0		5				5		17:30	33		27				60	
05:45	2	5	1	6			3	11	17:45	37	142	31	144			68	286
06:00	3		6				9		18:00	27		22				49	
06:15	1		5				6		18:15	20		24				44	
06:30	3		3				6		18:30	15		19				34	
06:45	6	13	15	29			21	42	18:45	19	81	14	79			33	160
07:00	7		16				23		19:00	19		21				40	
07:15	13		14				27		19:15	15		8				23	
07:30	23		39				62		19:30	12		12				24	
07:45	36	79	49	118			85	197	19:45	11	57	8	49			19	106
08:00	42		29				71		20:00	15		8				23	
08:15	26		22				48		20:15	8		5				13	
08:30	10		23				33		20:30	8		11				19	
08:45	16	94	22	96			38	190	20:45	7	38	7	31			14	69
09:00	18		21				39		21:00	5		5				10	
09:15	9		21				30		21:15	5		7				12	
09:30	15		17				32		21:30	8		5				13	
09:45	18	60	24	83			42	143	21:45	7	25	5	22			12	47
10:00	14		20				34		22:00	3		2				5	
10:15	14		19				33		22:15	3		2				5	
10:30	11		23				34		22:30	4		1				5	
10:45	15	54	16	78			31	132	22:45	2	12	2	7			4	19
11:00	16		29				45		23:00	4		2				6	
11:15	18		18				36		23:15	3		2				5	
11:30	14		26				40		23:30	2		1				3	
11:45	14	62	27	100			41	162	23:45	1	10	1	6			2	16
TOTALS		380		526				**906**	**TOTALS**		884		1009				**1893**
SPLIT %		41.9%		58.1%				**32.4%**	**SPLIT %**		46.7%		53.3%				**67.6%**

DAILY TOTALS	NB	SB	EB	WB	Total
	1,264	1,535	0	0	2,799

AM Peak Hour	07:30	07:30				**07:30**	**PM Peak Hour**	15:00	16:30				**16:30**
AM Pk Volume	127	139				**266**	**PM Pk Volume**	148	177				**316**
Pk Hr Factor	0.756	0.709				**0.782**	**Pk Hr Factor**	0.725	0.835				**0.929**
7 - 9 Volume	173	214	0	0		**387**	**4 - 6 Volume**	267	317	0	0		**584**
7 - 9 Peak Hour	07:30	07:30				**07:30**	**4 - 6 Peak Hour**	17:00	16:30				**16:30**
7 - 9 Pk Volume	127	139	0	0		**266**	**4 - 6 Pk Volume**	142	177	0	0		**316**
Pk Hr Factor	0.756	0.709	0.000	0.000		**0.782**	**Pk Hr Factor**	0.959	0.835	0.000	0.000		**0.929**

Appendix B INTERSECTION LOS WORKSHEETS

Intersection	
Intersection Delay, s/veh	12.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	180	166	0	0	124	23	72	157	1	17	0	104
Future Vol, veh/h	180	166	0	0	124	23	72	157	1	17	0	104
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	196	180	0	0	135	25	78	171	1	18	0	113
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	15.2	10.4	12.4	9.8
HCM LOS	C	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	31%	52%	0%	14%
Vol Thru, %	68%	48%	84%	0%
Vol Right, %	0%	0%	16%	86%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	230	346	147	121
LT Vol	72	180	0	17
Through Vol	157	166	124	0
RT Vol	1	0	23	104
Lane Flow Rate	250	376	160	132
Geometry Grp	1	1	1	1
Degree of Util (X)	0.395	0.563	0.246	0.197
Departure Headway (Hd)	5.693	5.391	5.548	5.389
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	630	669	646	663
Service Time	3.745	3.433	3.602	3.449
HCM Lane V/C Ratio	0.397	0.562	0.248	0.199
HCM Control Delay	12.4	15.2	10.4	9.8
HCM Lane LOS	B	C	B	A
HCM 95th-tile Q	1.9	3.5	1	0.7

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	28	119	5	31	164
Future Vol, veh/h	7	28	119	5	31	164
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	30	129	5	34	178

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	378	132	0	0	134	0
Stage 1	132	-	-	-	-	-
Stage 2	246	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	624	917	-	-	1451	-
Stage 1	894	-	-	-	-	-
Stage 2	795	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	608	917	-	-	1451	-
Mov Cap-2 Maneuver	608	-	-	-	-	-
Stage 1	871	-	-	-	-	-
Stage 2	795	-	-	-	-	-

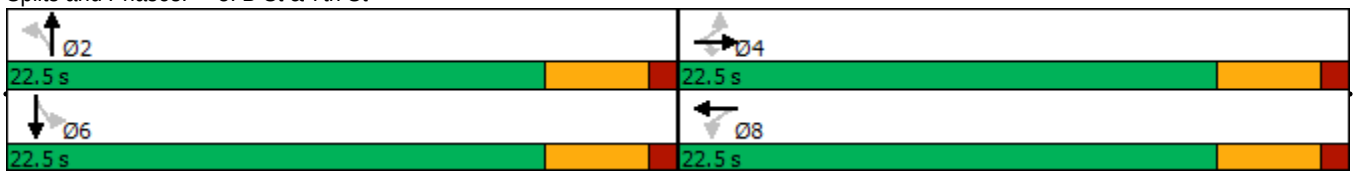
Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	1.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	832	1451	-
HCM Lane V/C Ratio	-	-	0.046	0.023	-
HCM Control Delay (s)	-	-	9.5	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	224	37	17	106	7	64	149	77	12	190	59
Future Volume (vph)	24	224	37	17	106	7	64	149	77	12	190	59
Satd. Flow (prot)	0	1853	1583	1770	1844	0	1770	1768	0	0	3412	0
Flt Permitted		0.962		0.556			0.578				0.941	
Satd. Flow (perm)	0	1792	1583	1036	1844	0	1077	1768	0	0	3217	0
Satd. Flow (RTOR)			40		8			69			64	
Adj. Flow (vph)	26	243	40	18	115	8	70	162	84	13	207	64
Lane Group Flow (vph)	0	269	40	18	123	0	70	246	0	0	284	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	22.5	22.5	22.5	22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	18.0	18.0	18.0	18.0	18.0		18.0	18.0		18.0	18.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Total Lost Time (s)		4.5	4.5	4.5	4.5		4.5	4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effct Green (s)		11.3	11.3	11.3	11.3		20.7	20.7			20.7	
Actuated g/C Ratio		0.27	0.27	0.27	0.27		0.50	0.50			0.50	
v/c Ratio		0.55	0.09	0.06	0.24		0.13	0.27			0.17	
Control Delay		16.2	4.4	9.7	10.6		7.7	6.0			5.4	
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0			0.0	
Total Delay		16.2	4.4	9.7	10.6		7.7	6.0			5.4	
LOS		B	A	A	B		A	A			A	
Approach Delay		14.7			10.5			6.4			5.4	
Approach LOS		B			B			A			A	

Intersection Summary	
Cycle Length: 45	
Actuated Cycle Length: 41.1	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.55	
Intersection Signal Delay: 9.1	Intersection LOS: A
Intersection Capacity Utilization 51.1%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: B St & 7th St



Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	0	9	0	11	115	1	4	0	0	159	7
Future Vol, veh/h	1	0	9	0	11	115	1	4	0	0	159	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	10	0	12	125	1	4	0	0	173	8
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7	7.5	7.5	8.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	20%	10%	0%	0%
Vol Thru, %	80%	0%	9%	96%
Vol Right, %	0%	90%	91%	4%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	5	10	126	166
LT Vol	1	1	0	0
Through Vol	4	0	11	159
RT Vol	0	9	115	7
Lane Flow Rate	5	11	137	180
Geometry Grp	1	1	1	1
Degree of Util (X)	0.007	0.012	0.145	0.209
Departure Headway (Hd)	4.375	3.965	3.818	4.171
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	805	907	945	855
Service Time	2.47	1.968	1.818	2.222
HCM Lane V/C Ratio	0.006	0.012	0.145	0.211
HCM Control Delay	7.5	7	7.5	8.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0	0.5	0.8

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	132	36	5	157	100	0
Future Vol, veh/h	132	36	5	157	100	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	50	75	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	143	39	5	171	109	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	290	109	109	0	-	0
Stage 1	109	-	-	-	-	-
Stage 2	181	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	701	945	1481	-	-	0
Stage 1	916	-	-	-	-	0
Stage 2	850	-	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	699	945	1481	-	-	-
Mov Cap-2 Maneuver	699	-	-	-	-	-
Stage 1	913	-	-	-	-	-
Stage 2	850	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	1481	-	699	945	-
HCM Lane V/C Ratio	0.004	-	0.205	0.041	-
HCM Control Delay (s)	7.4	-	11.5	9	-
HCM Lane LOS	A	-	B	A	-
HCM 95th %tile Q(veh)	0	-	0.8	0.1	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	9	236	15	0	0
Future Vol, veh/h	0	9	236	15	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	16979
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	10	257	16	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	265	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	774	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	774	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	9.7	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	774
HCM Lane V/C Ratio	-	-	0.013
HCM Control Delay (s)	-	-	9.7
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	8	171	31	8	137
Future Vol, veh/h	15	8	171	31	8	137
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	70	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	9	186	34	9	149

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	370	203	0	0	220	0
Stage 1	203	-	-	-	-	-
Stage 2	167	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	630	838	-	-	1349	-
Stage 1	831	-	-	-	-	-
Stage 2	863	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	626	838	-	-	1349	-
Mov Cap-2 Maneuver	626	-	-	-	-	-
Stage 1	825	-	-	-	-	-
Stage 2	863	-	-	-	-	-

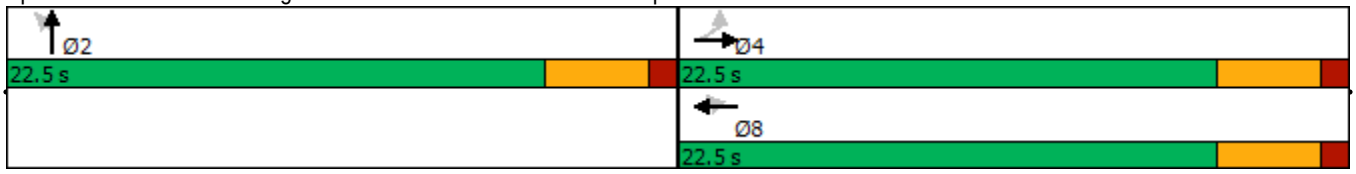
Approach	WB	NB	SB
HCM Control Delay, s	10.3	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	626	838	1349	-
HCM Lane V/C Ratio	-	-	0.026	0.01	0.006	-
HCM Control Delay (s)	-	-	10.9	9.3	7.7	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	0	-

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	57	117	98	55	19	667	87
Future Volume (vph)	57	117	98	55	19	667	87
Satd. Flow (prot)	1770	1863	1863	1583	0	3476	0
Flt Permitted	0.688					0.999	
Satd. Flow (perm)	1282	1863	1863	1583	0	3476	0
Satd. Flow (RTOR)						36	
Adj. Flow (vph)	62	127	107	60	21	725	95
Lane Group Flow (vph)	62	127	107	60	0	841	0
Turn Type	Perm	NA	NA	Perm	Perm	NA	
Protected Phases		4	8			2	
Permitted Phases	4			8	2		
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	
Total Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	
Maximum Green (s)	18.0	18.0	18.0	18.0	18.0	18.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5		4.5	
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	
Act Effct Green (s)	7.7	7.7	7.7	7.7		21.8	
Actuated g/C Ratio	0.22	0.22	0.22	0.22		0.61	
v/c Ratio	0.22	0.32	0.27	0.18		0.39	
Control Delay	13.0	13.4	12.8	12.0		5.6	
Queue Delay	0.0	0.0	0.0	0.0		0.0	
Total Delay	13.0	13.4	12.8	12.0		5.6	
LOS	B	B	B	B		A	
Approach Delay		13.3	12.5			5.6	
Approach LOS		B	B			A	

Intersection Summary	
Cycle Length: 45	
Actuated Cycle Length: 35.8	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.39	
Intersection Signal Delay: 7.8	Intersection LOS: A
Intersection Capacity Utilization 41.3%	ICU Level of Service A
Analysis Period (min) 15	

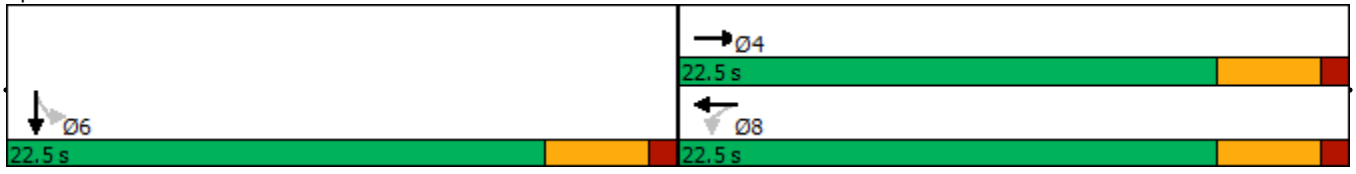
Splits and Phases: 7: Morgan St & 6th St & SR 101 NB On-Ramp



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	86	12	47	68	0	0	0	0	95	423	35
Future Volume (vph)	0	86	12	47	68	0	0	0	0	95	423	35
Satd. Flow (prot)	0	1831	0	0	1825	0	0	0	0	0	3479	0
Flt Permitted					0.820						0.992	
Satd. Flow (perm)	0	1831	0	0	1527	0	0	0	0	0	3479	0
Satd. Flow (RTOR)		13									18	
Adj. Flow (vph)	0	93	13	51	74	0	0	0	0	103	460	38
Lane Group Flow (vph)	0	106	0	0	125	0	0	0	0	0	601	0
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		4			8						6	
Permitted Phases				8						6		
Minimum Initial (s)		5.0		5.0	5.0					5.0	5.0	
Minimum Split (s)		22.5		22.5	22.5					22.5	22.5	
Total Split (s)		22.5		22.5	22.5					22.5	22.5	
Total Split (%)		50.0%		50.0%	50.0%					50.0%	50.0%	
Maximum Green (s)		18.0		18.0	18.0					18.0	18.0	
Yellow Time (s)		3.5		3.5	3.5					3.5	3.5	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Total Lost Time (s)		4.5			4.5						4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	
Recall Mode		None		None	None					Max	Max	
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		11.0		11.0	11.0					11.0	11.0	
Pedestrian Calls (#/hr)		0		0	0					0	0	
Act Effct Green (s)		7.9			8.0						24.9	
Actuated g/C Ratio		0.22			0.22						0.70	
v/c Ratio		0.26			0.36						0.25	
Control Delay		11.4			14.4						4.6	
Queue Delay		0.0			0.0						0.0	
Total Delay		11.4			14.4						4.6	
LOS		B			B						A	
Approach Delay		11.4			14.4						4.6	
Approach LOS		B			B						A	

Intersection Summary	
Cycle Length: 45	
Actuated Cycle Length: 35.7	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.36	
Intersection Signal Delay: 6.9	Intersection LOS: A
Intersection Capacity Utilization 35.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 8: Davis St & 6th St



Intersection	
Intersection Delay, s/veh	12.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	139	161	0	0	133	38	93	114	7	63	0	126
Future Vol, veh/h	139	161	0	0	133	38	93	114	7	63	0	126
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	151	175	0	0	145	41	101	124	8	68	0	137
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	14.3	11	12.4	11.1
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	43%	46%	0%	33%
Vol Thru, %	53%	54%	78%	0%
Vol Right, %	3%	0%	22%	67%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	214	300	171	189
LT Vol	93	139	0	63
Through Vol	114	161	133	0
RT Vol	7	0	38	126
Lane Flow Rate	233	326	186	205
Geometry Grp	1	1	1	1
Degree of Util (X)	0.376	0.507	0.291	0.313
Departure Headway (Hd)	5.812	5.6	5.63	5.484
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	616	642	634	651
Service Time	3.879	3.66	3.7	3.555
HCM Lane V/C Ratio	0.378	0.508	0.293	0.315
HCM Control Delay	12.4	14.3	11	11.1
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.7	2.9	1.2	1.3

Intersection	
Int Delay, s/veh	1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	44	134	9	23	211
Future Vol, veh/h	7	44	134	9	23	211
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	48	146	10	25	229

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	430	151	0	0	156	0
Stage 1	151	-	-	-	-	-
Stage 2	279	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	582	895	-	-	1424	-
Stage 1	877	-	-	-	-	-
Stage 2	768	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	570	895	-	-	1424	-
Mov Cap-2 Maneuver	570	-	-	-	-	-
Stage 1	859	-	-	-	-	-
Stage 2	768	-	-	-	-	-

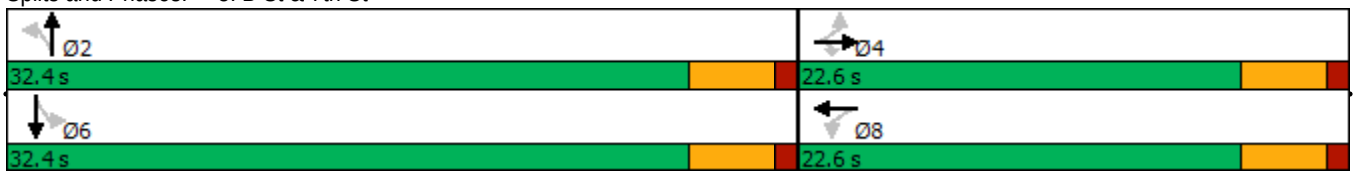
Approach	WB	NB	SB
HCM Control Delay, s	9.6	0	0.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	830	1424	-
HCM Lane V/C Ratio	-	-	0.067	0.018	-
HCM Control Delay (s)	-	-	9.6	7.6	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	180	101	27	141	12	174	138	118	20	444	103
Future Volume (vph)	18	180	101	27	141	12	174	138	118	20	444	103
Satd. Flow (prot)	0	1853	1583	1770	1840	0	1770	1734	0	0	3437	0
Flt Permitted		0.960		0.576			0.418				0.941	
Satd. Flow (perm)	0	1788	1583	1073	1840	0	779	1734	0	0	3240	0
Satd. Flow (RTOR)			110		8			113			70	
Adj. Flow (vph)	20	196	110	29	153	13	189	150	128	22	483	112
Lane Group Flow (vph)	0	216	110	29	166	0	189	278	0	0	617	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	22.6	22.6	22.6	22.6	22.6		32.4	32.4		32.4	32.4	
Total Split (%)	41.1%	41.1%	41.1%	41.1%	41.1%		58.9%	58.9%		58.9%	58.9%	
Maximum Green (s)	18.1	18.1	18.1	18.1	18.1		27.9	27.9		27.9	27.9	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Total Lost Time (s)		4.5	4.5	4.5	4.5		4.5	4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effct Green (s)		11.3	11.3	11.3	11.3		30.2	30.2			30.2	
Actuated g/C Ratio		0.22	0.22	0.22	0.22		0.60	0.60			0.60	
v/c Ratio		0.54	0.25	0.12	0.40		0.41	0.26			0.31	
Control Delay		21.7	5.3	15.2	17.7		10.0	4.2			5.5	
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0			0.0	
Total Delay		21.7	5.3	15.2	17.7		10.0	4.2			5.5	
LOS		C	A	B	B		B	A			A	
Approach Delay		16.2			17.3			6.6			5.5	
Approach LOS		B			B			A			A	

Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 50.5	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.54	
Intersection Signal Delay: 9.4	Intersection LOS: A
Intersection Capacity Utilization 64.2%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 3: B St & 7th St



Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	0	16	0	9	130	1	10	0	0	212	6
Future Vol, veh/h	4	0	16	0	9	130	1	10	0	0	212	6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	0	17	0	10	141	1	11	0	0	230	7
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.3	7.8	7.6	9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	9%	20%	0%	0%
Vol Thru, %	91%	0%	6%	97%
Vol Right, %	0%	80%	94%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	11	20	139	218
LT Vol	1	4	0	0
Through Vol	10	0	9	212
RT Vol	0	16	130	6
Lane Flow Rate	12	22	151	237
Geometry Grp	1	1	1	1
Degree of Util (X)	0.015	0.025	0.166	0.278
Departure Headway (Hd)	4.565	4.217	3.965	4.226
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	786	853	910	841
Service Time	2.58	2.223	1.966	2.303
HCM Lane V/C Ratio	0.015	0.026	0.166	0.282
HCM Control Delay	7.6	7.3	7.8	9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0.1	0.6	1.1

Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	159	69	11	133	275	0
Future Vol, veh/h	159	69	11	133	275	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	50	75	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	173	75	12	145	299	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	468	299	299	0	-	0
Stage 1	299	-	-	-	-	-
Stage 2	169	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	553	741	1262	-	-	0
Stage 1	752	-	-	-	-	0
Stage 2	861	-	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	547	741	1262	-	-	-
Mov Cap-2 Maneuver	547	-	-	-	-	-
Stage 1	744	-	-	-	-	-
Stage 2	861	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.3	0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	1262	-	547	741	-
HCM Lane V/C Ratio	0.009	-	0.316	0.101	-
HCM Control Delay (s)	7.9	-	14.6	10.4	-
HCM Lane LOS	A	-	B	B	-
HCM 95th %tile Q(veh)	0	-	1.3	0.3	-

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	14	211	14	0	0
Future Vol, veh/h	0	14	211	14	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	16979
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	15	229	15	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	237	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	802	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	802	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	9.6	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	802
HCM Lane V/C Ratio	-	-	0.019
HCM Control Delay (s)	-	-	9.6
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.1

Intersection	
Int Delay, s/veh	2.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	64	18	142	57	50	300
Future Vol, veh/h	64	18	142	57	50	300
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	70	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	70	20	154	62	54	326

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	619	185	0	0	216	0
Stage 1	185	-	-	-	-	-
Stage 2	434	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	452	857	-	-	1354	-
Stage 1	847	-	-	-	-	-
Stage 2	653	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	434	857	-	-	1354	-
Mov Cap-2 Maneuver	434	-	-	-	-	-
Stage 1	813	-	-	-	-	-
Stage 2	653	-	-	-	-	-

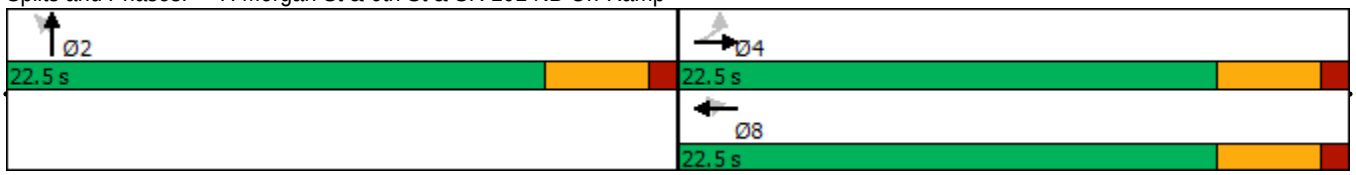
Approach	WB	NB	SB
HCM Control Delay, s	13.7	0	1.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	434	857	1354	-
HCM Lane V/C Ratio	-	-	0.16	0.023	0.04	-
HCM Control Delay (s)	-	-	14.9	9.3	7.8	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0.1	0.1	-

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	48	92	211	155	42	699	104
Future Volume (vph)	48	92	211	155	42	699	104
Satd. Flow (prot)	1770	1863	1863	1583	0	3469	0
Flt Permitted	0.616					0.998	
Satd. Flow (perm)	1147	1863	1863	1583	0	3469	0
Satd. Flow (RTOR)						41	
Adj. Flow (vph)	52	100	229	168	46	760	113
Lane Group Flow (vph)	52	100	229	168	0	919	0
Turn Type	Perm	NA	NA	Perm	Perm	NA	
Protected Phases		4	8			2	
Permitted Phases	4			8	2		
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	
Total Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	
Maximum Green (s)	18.0	18.0	18.0	18.0	18.0	18.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5		4.5	
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	
Act Effct Green (s)	10.1	10.1	10.3	10.3		22.0	
Actuated g/C Ratio	0.26	0.26	0.27	0.27		0.58	
v/c Ratio	0.17	0.20	0.46	0.40		0.46	
Control Delay	11.2	11.0	14.2	13.7		7.6	
Queue Delay	0.0	0.0	0.0	0.0		0.0	
Total Delay	11.2	11.0	14.2	13.7		7.6	
LOS	B	B	B	B		A	
Approach Delay		11.1	14.0			7.6	
Approach LOS		B	B			A	

Intersection Summary	
Cycle Length: 45	
Actuated Cycle Length: 38.2	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.46	
Intersection Signal Delay: 9.7	Intersection LOS: A
Intersection Capacity Utilization 50.4%	ICU Level of Service A
Analysis Period (min) 15	

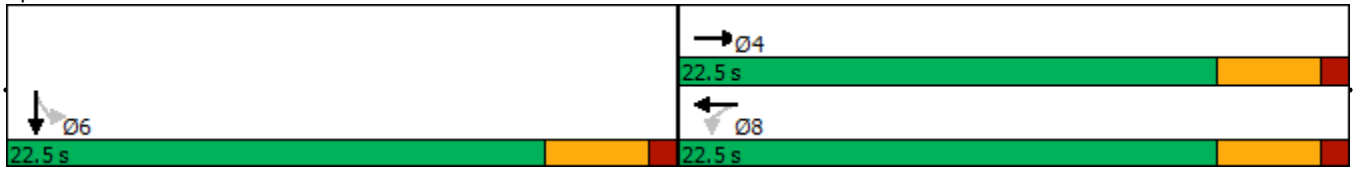
Splits and Phases: 7: Morgan St & 6th St & SR 101 NB On-Ramp



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	85	36	159	106	0	0	0	0	52	353	49
Future Volume (vph)	0	85	36	159	106	0	0	0	0	52	353	49
Satd. Flow (prot)	0	1788	0	0	1809	0	0	0	0	0	3462	0
Flt Permitted					0.741						0.994	
Satd. Flow (perm)	0	1788	0	0	1380	0	0	0	0	0	3462	0
Satd. Flow (RTOR)		39									34	
Adj. Flow (vph)	0	92	39	173	115	0	0	0	0	57	384	53
Lane Group Flow (vph)	0	131	0	0	288	0	0	0	0	0	494	0
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		4			8						6	
Permitted Phases				8						6		
Minimum Initial (s)		5.0		5.0	5.0					5.0	5.0	
Minimum Split (s)		22.5		22.5	22.5					22.5	22.5	
Total Split (s)		22.5		22.5	22.5					22.5	22.5	
Total Split (%)		50.0%		50.0%	50.0%					50.0%	50.0%	
Maximum Green (s)		18.0		18.0	18.0					18.0	18.0	
Yellow Time (s)		3.5		3.5	3.5					3.5	3.5	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Total Lost Time (s)		4.5			4.5						4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	
Recall Mode		None		None	None					Max	Max	
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		11.0		11.0	11.0					11.0	11.0	
Pedestrian Calls (#/hr)		0		0	0					0	0	
Act Effct Green (s)		13.4			13.4						20.4	
Actuated g/C Ratio		0.31			0.31						0.48	
v/c Ratio		0.22			0.67						0.30	
Control Delay		8.0			20.2						7.8	
Queue Delay		0.0			0.0						0.0	
Total Delay		8.0			20.2						7.8	
LOS		A			C						A	
Approach Delay		8.0			20.2						7.8	
Approach LOS		A			C						A	

Intersection Summary	
Cycle Length: 45	
Actuated Cycle Length: 42.9	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay: 11.7	Intersection LOS: B
Intersection Capacity Utilization 45.1%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 8: Davis St & 6th St



Intersection	
Intersection Delay, s/veh	13.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	180	180	0	0	126	23	79	162	1	24	0	104
Future Vol, veh/h	180	180	0	0	126	23	79	162	1	24	0	104
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	196	196	0	0	137	25	86	176	1	26	0	113
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	16.3	10.7	13.1	10.1
HCM LOS	C	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	33%	50%	0%	19%
Vol Thru, %	67%	50%	85%	0%
Vol Right, %	0%	0%	15%	81%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	242	360	149	128
LT Vol	79	180	0	24
Through Vol	162	180	126	0
RT Vol	1	0	23	104
Lane Flow Rate	263	391	162	139
Geometry Grp	1	1	1	1
Degree of Util (X)	0.423	0.595	0.255	0.214
Departure Headway (Hd)	5.789	5.476	5.673	5.538
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	621	657	630	644
Service Time	3.848	3.527	3.739	3.608
HCM Lane V/C Ratio	0.424	0.595	0.257	0.216
HCM Control Delay	13.1	16.3	10.7	10.1
HCM Lane LOS	B	C	B	B
HCM 95th-tile Q	2.1	3.9	1	0.8

Intersection	
Int Delay, s/veh	1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	28	121	5	31	186
Future Vol, veh/h	7	28	121	5	31	186
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	30	132	5	34	202

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	405	135	0	0	137	0
Stage 1	135	-	-	-	-	-
Stage 2	270	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	602	914	-	-	1447	-
Stage 1	891	-	-	-	-	-
Stage 2	775	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	586	914	-	-	1447	-
Mov Cap-2 Maneuver	586	-	-	-	-	-
Stage 1	868	-	-	-	-	-
Stage 2	775	-	-	-	-	-

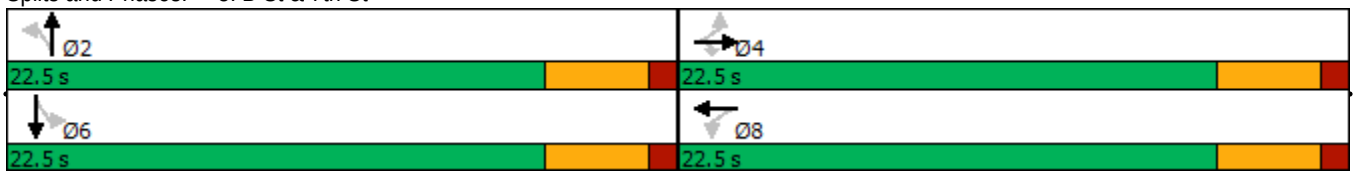
Approach	WB	NB	SB
HCM Control Delay, s	9.6	0	1.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	822	1447	-
HCM Lane V/C Ratio	-	-	0.046	0.023	-
HCM Control Delay (s)	-	-	9.6	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	231	39	17	117	7	68	149	77	12	190	63
Future Volume (vph)	26	231	39	17	117	7	68	149	77	12	190	63
Satd. Flow (prot)	0	1853	1583	1770	1846	0	1770	1768	0	0	3409	0
Flt Permitted		0.959		0.541			0.575				0.941	
Satd. Flow (perm)	0	1786	1583	1008	1846	0	1071	1768	0	0	3214	0
Satd. Flow (RTOR)			42		8			69			68	
Adj. Flow (vph)	28	251	42	18	127	8	74	162	84	13	207	68
Lane Group Flow (vph)	0	279	42	18	135	0	74	246	0	0	288	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	22.5	22.5	22.5	22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	18.0	18.0	18.0	18.0	18.0		18.0	18.0		18.0	18.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Total Lost Time (s)		4.5	4.5	4.5	4.5		4.5	4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effct Green (s)		11.6	11.6	11.6	11.6		20.6	20.6			20.6	
Actuated g/C Ratio		0.28	0.28	0.28	0.28		0.50	0.50			0.50	
v/c Ratio		0.56	0.09	0.06	0.26		0.14	0.27			0.18	
Control Delay		16.2	4.3	9.6	10.6		7.9	6.2			5.5	
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0			0.0	
Total Delay		16.2	4.3	9.6	10.6		7.9	6.2			5.5	
LOS		B	A	A	B		A	A			A	
Approach Delay		14.7			10.5			6.6			5.5	
Approach LOS		B			B			A			A	

Intersection Summary	
Cycle Length: 45	
Actuated Cycle Length: 41.3	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.56	
Intersection Signal Delay: 9.3	Intersection LOS: A
Intersection Capacity Utilization 55.3%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 3: B St & 7th St



Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	0	13	0	11	117	3	6	0	0	185	7
Future Vol, veh/h	1	0	13	0	11	117	3	6	0	0	185	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	14	0	12	127	3	7	0	0	201	8
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.1	7.6	7.6	8.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	33%	7%	0%	0%
Vol Thru, %	67%	0%	9%	96%
Vol Right, %	0%	93%	91%	4%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	14	128	192
LT Vol	3	1	0	0
Through Vol	6	0	11	185
RT Vol	0	13	117	7
Lane Flow Rate	10	15	139	209
Geometry Grp	1	1	1	1
Degree of Util (X)	0.012	0.017	0.151	0.243
Departure Headway (Hd)	4.549	4.024	3.896	4.189
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	792	894	925	849
Service Time	2.549	2.029	1.897	2.251
HCM Lane V/C Ratio	0.013	0.017	0.15	0.246
HCM Control Delay	7.6	7.1	7.6	8.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0.1	0.5	1

Intersection	
Int Delay, s/veh	4.6

Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	9	169	120	0	137	61
Future Vol, veh/h	9	169	120	0	137	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	75	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	184	130	0	149	66

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	130	0	-	0	334	130
Stage 1	-	-	-	-	130	-
Stage 2	-	-	-	-	204	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1455	-	-	0	661	920
Stage 1	-	-	-	0	896	-
Stage 2	-	-	-	0	830	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1455	-	-	-	656	920
Mov Cap-2 Maneuver	-	-	-	-	656	-
Stage 1	-	-	-	-	890	-
Stage 2	-	-	-	-	830	-

Approach	NB	SB	NE
HCM Control Delay, s	0.4	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	NELn2	NBL	NBT	SBT
Capacity (veh/h)	656	920	1455	-	-
HCM Lane V/C Ratio	0.227	0.072	0.007	-	-
HCM Control Delay (s)	12.1	9.2	7.5	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0.9	0.2	0	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	11	245	20	0	0
Future Vol, veh/h	0	11	245	20	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	16979
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	12	266	22	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	277	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	762	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	762	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	9.8	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	762
HCM Lane V/C Ratio	-	-	0.016
HCM Control Delay (s)	-	-	9.8
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	8	182	31	8	158
Future Vol, veh/h	15	8	182	31	8	158
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	70	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	9	198	34	9	172

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	405	215	0	0	232	0
Stage 1	215	-	-	-	-	-
Stage 2	190	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	602	825	-	-	1336	-
Stage 1	821	-	-	-	-	-
Stage 2	842	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	598	825	-	-	1336	-
Mov Cap-2 Maneuver	598	-	-	-	-	-
Stage 1	815	-	-	-	-	-
Stage 2	842	-	-	-	-	-

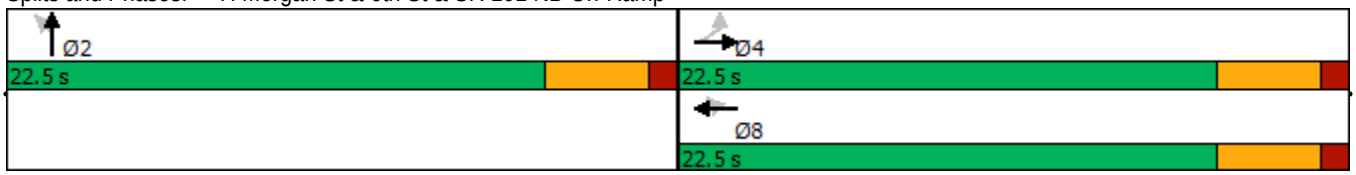
Approach	WB	NB	SB
HCM Control Delay, s	10.6	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	598	825	1336	-
HCM Lane V/C Ratio	-	-	0.027	0.011	0.007	-
HCM Control Delay (s)	-	-	11.2	9.4	7.7	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	0	-

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	71	124	112	62	19	674	91
Future Volume (vph)	71	124	112	62	19	674	91
Satd. Flow (prot)	1770	1863	1863	1583	0	3476	0
Flt Permitted	0.679					0.999	
Satd. Flow (perm)	1265	1863	1863	1583	0	3476	0
Satd. Flow (RTOR)						38	
Adj. Flow (vph)	77	135	122	67	21	733	99
Lane Group Flow (vph)	77	135	122	67	0	853	0
Turn Type	Perm	NA	NA	Perm	Perm	NA	
Protected Phases		4	8			2	
Permitted Phases	4			8	2		
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	
Total Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	
Maximum Green (s)	18.0	18.0	18.0	18.0	18.0	18.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5		4.5	
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	
Act Effct Green (s)	7.9	7.9	7.9	7.9		21.8	
Actuated g/C Ratio	0.22	0.22	0.22	0.22		0.61	
v/c Ratio	0.28	0.33	0.30	0.19		0.40	
Control Delay	13.8	13.5	13.1	12.1		5.8	
Queue Delay	0.0	0.0	0.0	0.0		0.0	
Total Delay	13.8	13.5	13.1	12.1		5.8	
LOS	B	B	B	B		A	
Approach Delay		13.6	12.8			5.8	
Approach LOS		B	B			A	

Intersection Summary	
Cycle Length: 45	
Actuated Cycle Length: 35.9	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.40	
Intersection Signal Delay: 8.1	Intersection LOS: A
Intersection Capacity Utilization 41.7%	ICU Level of Service A
Analysis Period (min) 15	

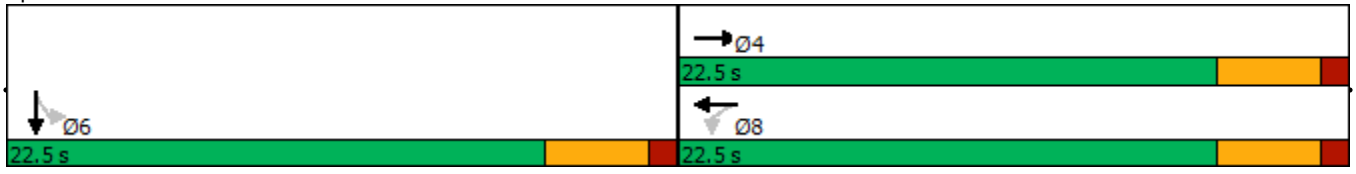
Splits and Phases: 7: Morgan St & 6th St & SR 101 NB On-Ramp



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	97	12	54	75	0	0	0	0	106	423	35
Future Volume (vph)	0	97	12	54	75	0	0	0	0	106	423	35
Satd. Flow (prot)	0	1835	0	0	1825	0	0	0	0	0	3476	0
Flt Permitted					0.810						0.991	
Satd. Flow (perm)	0	1835	0	0	1509	0	0	0	0	0	3476	0
Satd. Flow (RTOR)		13									18	
Adj. Flow (vph)	0	105	13	59	82	0	0	0	0	115	460	38
Lane Group Flow (vph)	0	118	0	0	141	0	0	0	0	0	613	0
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		4			8						6	
Permitted Phases				8						6		
Minimum Initial (s)		5.0		5.0	5.0					5.0	5.0	
Minimum Split (s)		22.5		22.5	22.5					22.5	22.5	
Total Split (s)		22.5		22.5	22.5					22.5	22.5	
Total Split (%)		50.0%		50.0%	50.0%					50.0%	50.0%	
Maximum Green (s)		18.0		18.0	18.0					18.0	18.0	
Yellow Time (s)		3.5		3.5	3.5					3.5	3.5	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Total Lost Time (s)		4.5			4.5						4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	
Recall Mode		None		None	None					Max	Max	
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		11.0		11.0	11.0					11.0	11.0	
Pedestrian Calls (#/hr)		0		0	0					0	0	
Act Effct Green (s)		8.5			8.5						22.4	
Actuated g/C Ratio		0.23			0.23						0.61	
v/c Ratio		0.28			0.41						0.29	
Control Delay		11.6			15.2						5.5	
Queue Delay		0.0			0.0						0.0	
Total Delay		11.6			15.2						5.5	
LOS		B			B						A	
Approach Delay		11.6			15.2						5.5	
Approach LOS		B			B						A	

Intersection Summary	
Cycle Length: 45	
Actuated Cycle Length: 37	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.41	
Intersection Signal Delay: 7.9	Intersection LOS: A
Intersection Capacity Utilization 37.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 8: Davis St & 6th St



Intersection	
Intersection Delay, s/veh	13.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	139	171	0	0	137	38	105	122	7	68	0	126
Future Vol, veh/h	139	171	0	0	137	38	105	122	7	68	0	126
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	151	186	0	0	149	41	114	133	8	74	0	137
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	15.3	11.4	13.2	11.5
HCM LOS	C	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	45%	45%	0%	35%
Vol Thru, %	52%	55%	78%	0%
Vol Right, %	3%	0%	22%	65%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	234	310	175	194
LT Vol	105	139	0	68
Through Vol	122	171	137	0
RT Vol	7	0	38	126
Lane Flow Rate	254	337	190	211
Geometry Grp	1	1	1	1
Degree of Util (X)	0.418	0.535	0.305	0.33
Departure Headway (Hd)	5.911	5.719	5.779	5.629
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	605	627	616	635
Service Time	3.989	3.79	3.864	3.709
HCM Lane V/C Ratio	0.42	0.537	0.308	0.332
HCM Control Delay	13.2	15.3	11.4	11.5
HCM Lane LOS	B	C	B	B
HCM 95th-tile Q	2.1	3.2	1.3	1.4

Intersection	
Int Delay, s/veh	1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	44	138	9	23	225
Future Vol, veh/h	7	44	138	9	23	225
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	48	150	10	25	245

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	450	155	0	0	160	0
Stage 1	155	-	-	-	-	-
Stage 2	295	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	567	891	-	-	1419	-
Stage 1	873	-	-	-	-	-
Stage 2	755	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	556	891	-	-	1419	-
Mov Cap-2 Maneuver	556	-	-	-	-	-
Stage 1	856	-	-	-	-	-
Stage 2	755	-	-	-	-	-

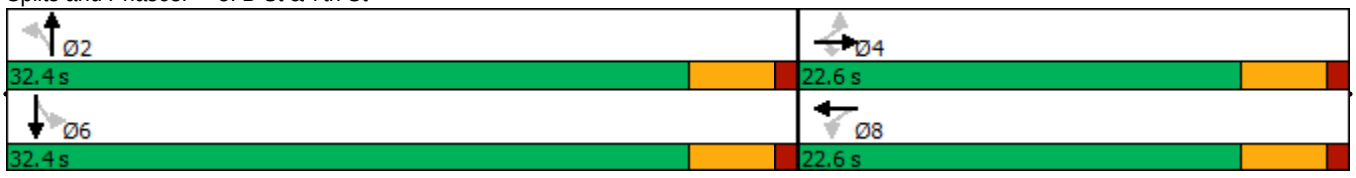
Approach	WB	NB	SB
HCM Control Delay, s	9.7	0	0.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	823	1419	-
HCM Lane V/C Ratio	-	-	0.067	0.018	-
HCM Control Delay (s)	-	-	9.7	7.6	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	192	105	27	148	12	176	138	118	20	444	105
Future Volume (vph)	22	192	105	27	148	12	176	138	118	20	444	105
Satd. Flow (prot)	0	1853	1583	1770	1842	0	1770	1734	0	0	3433	0
Flt Permitted		0.954		0.550			0.416				0.941	
Satd. Flow (perm)	0	1777	1583	1025	1842	0	775	1734	0	0	3237	0
Satd. Flow (RTOR)			114		8			113			71	
Adj. Flow (vph)	24	209	114	29	161	13	191	150	128	22	483	114
Lane Group Flow (vph)	0	233	114	29	174	0	191	278	0	0	619	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	22.6	22.6	22.6	22.6	22.6		32.4	32.4		32.4	32.4	
Total Split (%)	41.1%	41.1%	41.1%	41.1%	41.1%		58.9%	58.9%		58.9%	58.9%	
Maximum Green (s)	18.1	18.1	18.1	18.1	18.1		27.9	27.9		27.9	27.9	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Total Lost Time (s)		4.5	4.5	4.5	4.5		4.5	4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effct Green (s)		11.8	11.8	11.8	11.8		29.5	29.5			29.5	
Actuated g/C Ratio		0.23	0.23	0.23	0.23		0.59	0.59			0.59	
v/c Ratio		0.56	0.25	0.12	0.40		0.42	0.26			0.32	
Control Delay		21.8	5.1	15.0	17.4		10.7	4.4			5.8	
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0			0.0	
Total Delay		21.8	5.1	15.0	17.4		10.7	4.4			5.8	
LOS		C	A	B	B		B	A			A	
Approach Delay		16.3			17.1			7.0			5.8	
Approach LOS		B			B			A			A	

Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 50.3	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.56	
Intersection Signal Delay: 9.8	Intersection LOS: A
Intersection Capacity Utilization 65.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 3: B St & 7th St



Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	0	24	0	9	130	5	14	0	0	226	6
Future Vol, veh/h	4	0	24	0	9	130	5	14	0	0	226	6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	0	26	0	10	141	5	15	0	0	246	7
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.4	7.9	7.8	9.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	26%	14%	0%	0%
Vol Thru, %	74%	0%	6%	97%
Vol Right, %	0%	86%	94%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	19	28	139	232
LT Vol	5	4	0	0
Through Vol	14	0	9	226
RT Vol	0	24	130	6
Lane Flow Rate	21	30	151	252
Geometry Grp	1	1	1	1
Degree of Util (X)	0.027	0.036	0.169	0.298
Departure Headway (Hd)	4.643	4.234	4.033	4.248
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	773	849	894	832
Service Time	2.661	2.242	2.036	2.341
HCM Lane V/C Ratio	0.027	0.035	0.169	0.303
HCM Control Delay	7.8	7.4	7.9	9.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.6	1.3

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	163	87	19	148	287	0
Future Vol, veh/h	163	87	19	148	287	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	50	75	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	177	95	21	161	312	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	515	312	312	0	-	0
Stage 1	312	-	-	-	-	-
Stage 2	203	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	520	728	1248	-	-	0
Stage 1	742	-	-	-	-	0
Stage 2	831	-	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	511	728	1248	-	-	-
Mov Cap-2 Maneuver	511	-	-	-	-	-
Stage 1	729	-	-	-	-	-
Stage 2	831	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14	0.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	1248	-	511	728	-
HCM Lane V/C Ratio	0.017	-	0.347	0.13	-
HCM Control Delay (s)	7.9	-	15.7	10.7	-
HCM Lane LOS	A	-	C	B	-
HCM 95th %tile Q(veh)	0.1	-	1.5	0.4	-

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	18	226	22	0	0
Future Vol, veh/h	0	18	226	22	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	16979
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	20	246	24	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	258	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	781	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	781	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	9.7	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	781
HCM Lane V/C Ratio	-	-	0.025
HCM Control Delay (s)	-	-	9.7
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.1

Intersection	
Int Delay, s/veh	2.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	64	18	149	57	50	335
Future Vol, veh/h	64	18	149	57	50	335
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	70	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	70	20	162	62	54	364

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	665	193	0	0	224	0
Stage 1	193	-	-	-	-	-
Stage 2	472	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	425	849	-	-	1345	-
Stage 1	840	-	-	-	-	-
Stage 2	628	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	408	849	-	-	1345	-
Mov Cap-2 Maneuver	408	-	-	-	-	-
Stage 1	806	-	-	-	-	-
Stage 2	628	-	-	-	-	-

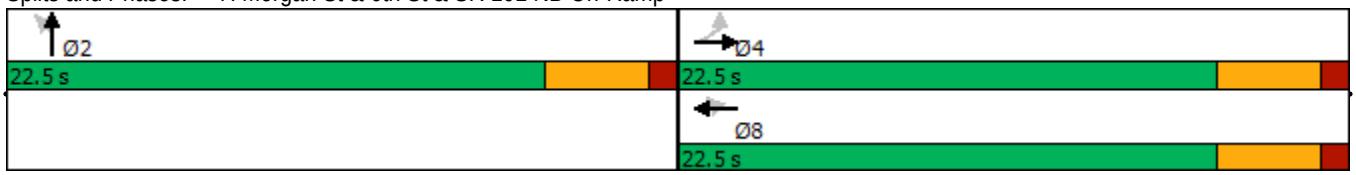
Approach	WB	NB	SB
HCM Control Delay, s	14.2	0	1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	408	849	1345	-
HCM Lane V/C Ratio	-	-	0.171	0.023	0.04	-
HCM Control Delay (s)	-	-	15.6	9.3	7.8	-
HCM Lane LOS	-	-	C	A	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0.1	0.1	-

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	58	97	234	167	42	704	106
Future Volume (vph)	58	97	234	167	42	704	106
Satd. Flow (prot)	1770	1863	1863	1583	0	3465	0
Flt Permitted	0.585					0.998	
Satd. Flow (perm)	1090	1863	1863	1583	0	3465	0
Satd. Flow (RTOR)						41	
Adj. Flow (vph)	63	105	254	182	46	765	115
Lane Group Flow (vph)	63	105	254	182	0	926	0
Turn Type	Perm	NA	NA	Perm	Perm	NA	
Protected Phases		4	8			2	
Permitted Phases	4			8	2		
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	
Total Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	
Maximum Green (s)	18.0	18.0	18.0	18.0	18.0	18.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5		4.5	
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	
Act Effct Green (s)	11.2	11.2	11.2	11.2		20.3	
Actuated g/C Ratio	0.28	0.28	0.28	0.28		0.50	
v/c Ratio	0.21	0.20	0.49	0.42		0.53	
Control Delay	11.5	10.7	14.7	13.9		8.9	
Queue Delay	0.0	0.0	0.0	0.0		0.0	
Total Delay	11.5	10.7	14.7	13.9		8.9	
LOS	B	B	B	B		A	
Approach Delay		11.0	14.4			8.9	
Approach LOS		B	B			A	

Intersection Summary	
Cycle Length: 45	
Actuated Cycle Length: 40.6	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.53	
Intersection Signal Delay: 10.7	Intersection LOS: B
Intersection Capacity Utilization 51.8%	ICU Level of Service A
Analysis Period (min) 15	

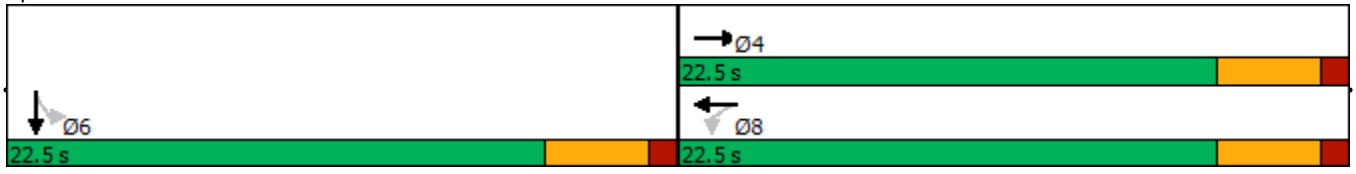
Splits and Phases: 7: Morgan St & 6th St & SR 101 NB On-Ramp



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	92	36	171	118	0	0	0	0	59	353	49
Future Volume (vph)	0	92	36	171	118	0	0	0	0	59	353	49
Satd. Flow (prot)	0	1792	0	0	1809	0	0	0	0	0	3462	0
Flt Permitted					0.740						0.994	
Satd. Flow (perm)	0	1792	0	0	1378	0	0	0	0	0	3462	0
Satd. Flow (RTOR)		39									33	
Adj. Flow (vph)	0	100	39	186	128	0	0	0	0	64	384	53
Lane Group Flow (vph)	0	139	0	0	314	0	0	0	0	0	501	0
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		4			8						6	
Permitted Phases				8						6		
Minimum Initial (s)		5.0		5.0	5.0					5.0	5.0	
Minimum Split (s)		22.5		22.5	22.5					22.5	22.5	
Total Split (s)		22.5		22.5	22.5					22.5	22.5	
Total Split (%)		50.0%		50.0%	50.0%					50.0%	50.0%	
Maximum Green (s)		18.0		18.0	18.0					18.0	18.0	
Yellow Time (s)		3.5		3.5	3.5					3.5	3.5	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Total Lost Time (s)		4.5			4.5						4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	
Recall Mode		None		None	None					Max	Max	
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		11.0		11.0	11.0					11.0	11.0	
Pedestrian Calls (#/hr)		0		0	0					0	0	
Act Effct Green (s)		13.9			13.9						19.6	
Actuated g/C Ratio		0.33			0.33						0.46	
v/c Ratio		0.23			0.70						0.31	
Control Delay		8.0			20.9						8.2	
Queue Delay		0.0			0.0						0.0	
Total Delay		8.0			20.9						8.2	
LOS		A			C						A	
Approach Delay		8.0			20.9						8.2	
Approach LOS		A			C						A	

Intersection Summary	
Cycle Length: 45	
Actuated Cycle Length: 42.5	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 12.4	Intersection LOS: B
Intersection Capacity Utilization 47.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 8: Davis St & 6th St



Intersection	
Intersection Delay, s/veh	40.1
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	270	260	0	0	200	40	80	160	10	30	0	160
Future Vol, veh/h	270	260	0	0	200	40	80	160	10	30	0	160
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	293	283	0	0	217	43	87	174	11	33	0	174
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	69.6	16.9	19.1	14.9
HCM LOS	F	C	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	32%	51%	0%	16%
Vol Thru, %	64%	49%	83%	0%
Vol Right, %	4%	0%	17%	84%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	250	530	240	190
LT Vol	80	270	0	30
Through Vol	160	260	200	0
RT Vol	10	0	40	160
Lane Flow Rate	272	576	261	207
Geometry Grp	1	1	1	1
Degree of Util (X)	0.55	1.023	0.501	0.404
Departure Headway (Hd)	7.413	6.393	7.044	7.172
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	489	565	514	506
Service Time	5.413	4.488	5.044	5.172
HCM Lane V/C Ratio	0.556	1.019	0.508	0.409
HCM Control Delay	19.1	69.6	16.9	14.9
HCM Lane LOS	C	F	C	B
HCM 95th-tile Q	3.3	15.4	2.8	1.9

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	40	160	10	50	220
Future Vol, veh/h	10	40	160	10	50	220
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	43	174	11	54	239

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	527	180	0	0	185	0
Stage 1	180	-	-	-	-	-
Stage 2	347	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	512	863	-	-	1390	-
Stage 1	851	-	-	-	-	-
Stage 2	716	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	489	863	-	-	1390	-
Mov Cap-2 Maneuver	489	-	-	-	-	-
Stage 1	813	-	-	-	-	-
Stage 2	716	-	-	-	-	-

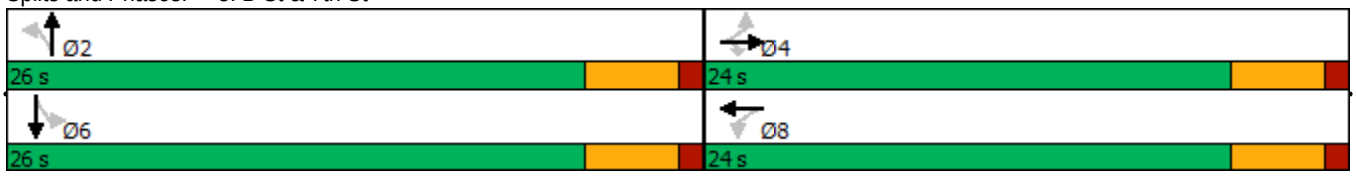
Approach	WB	NB	SB
HCM Control Delay, s	10.2	0	1.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	749	1390	-
HCM Lane V/C Ratio	-	-	0.073	0.039	-
HCM Control Delay (s)	-	-	10.2	7.7	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	390	80	40	180	20	130	360	140	30	460	140
Future Volume (vph)	60	390	80	40	180	20	130	360	140	30	460	140
Satd. Flow (prot)	0	1850	1583	1770	1835	0	1770	1785	0	0	3416	0
Flt Permitted		0.929		0.287			0.355				0.917	
Satd. Flow (perm)	0	1730	1583	535	1835	0	661	1785	0	0	3138	0
Satd. Flow (RTOR)			87		13			49			92	
Adj. Flow (vph)	65	424	87	43	196	22	141	391	152	33	500	152
Lane Group Flow (vph)	0	489	87	43	218	0	141	543	0	0	685	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	24.0	24.0	24.0	24.0	24.0		26.0	26.0		26.0	26.0	
Total Split (%)	48.0%	48.0%	48.0%	48.0%	48.0%		52.0%	52.0%		52.0%	52.0%	
Maximum Green (s)	19.5	19.5	19.5	19.5	19.5		21.5	21.5		21.5	21.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Total Lost Time (s)		4.5	4.5	4.5	4.5		4.5	4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effct Green (s)		16.9	16.9	16.9	16.9		21.6	21.6			21.6	
Actuated g/C Ratio		0.36	0.36	0.36	0.36		0.45	0.45			0.45	
v/c Ratio		0.80	0.14	0.23	0.33		0.47	0.65			0.46	
Control Delay		25.2	3.6	13.8	11.8		16.8	14.4			9.5	
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0			0.0	
Total Delay		25.2	3.6	13.8	11.8		16.8	14.4			9.5	
LOS		C	A	B	B		B	B			A	
Approach Delay		21.9			12.1			14.9			9.5	
Approach LOS		C			B			B			A	

Intersection Summary	
Cycle Length: 50	
Actuated Cycle Length: 47.6	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.80	
Intersection Signal Delay: 14.7	Intersection LOS: B
Intersection Capacity Utilization 95.1%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 3: B St & 7th St



Intersection	
Intersection Delay, s/veh	10.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	0	20	0	20	220	10	10	0	0	300	10
Future Vol, veh/h	10	0	20	0	20	220	10	10	0	0	300	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	0	22	0	22	239	11	11	0	0	326	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8	9.3	8.3	11.1
HCM LOS	A	A	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	50%	33%	0%	0%
Vol Thru, %	50%	0%	8%	97%
Vol Right, %	0%	67%	92%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	30	240	310
LT Vol	10	10	0	0
Through Vol	10	0	20	300
RT Vol	0	20	220	10
Lane Flow Rate	22	33	261	337
Geometry Grp	1	1	1	1
Degree of Util (X)	0.031	0.043	0.311	0.429
Departure Headway (Hd)	5.089	4.764	4.285	4.586
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	700	748	837	782
Service Time	3.149	2.815	2.317	2.63
HCM Lane V/C Ratio	0.031	0.044	0.312	0.431
HCM Control Delay	8.3	8	9.3	11.1
HCM Lane LOS	A	A	A	B
HCM 95th-tile Q	0.1	0.1	1.3	2.2

Intersection	
Int Delay, s/veh	8.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	250	70	20	330	210	0
Future Vol, veh/h	250	70	20	330	210	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	50	75	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	272	76	22	359	228	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	631	228	228	0	-	0
Stage 1	228	-	-	-	-	-
Stage 2	403	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	445	811	1340	-	-	0
Stage 1	810	-	-	-	-	0
Stage 2	675	-	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	438	811	1340	-	-	-
Mov Cap-2 Maneuver	438	-	-	-	-	-
Stage 1	797	-	-	-	-	-
Stage 2	675	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	22.2	0.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	1340	-	438	811	-
HCM Lane V/C Ratio	0.016	-	0.62	0.094	-
HCM Control Delay (s)	7.7	-	25.7	9.9	-
HCM Lane LOS	A	-	D	A	-
HCM 95th %tile Q(veh)	0	-	4.1	0.3	-

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	10	250	20	0	0
Future Vol, veh/h	0	10	250	20	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	16979
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	11	272	22	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	283	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	756	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	756	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	9.8	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	756
HCM Lane V/C Ratio	-	-	0.014
HCM Control Delay (s)	-	-	9.8
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	20	360	50	20	290
Future Vol, veh/h	30	20	360	50	20	290
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	70	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	22	391	54	22	315

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	777	418	0	0	445	0
Stage 1	418	-	-	-	-	-
Stage 2	359	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	365	635	-	-	1115	-
Stage 1	664	-	-	-	-	-
Stage 2	707	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	358	635	-	-	1115	-
Mov Cap-2 Maneuver	358	-	-	-	-	-
Stage 1	651	-	-	-	-	-
Stage 2	707	-	-	-	-	-

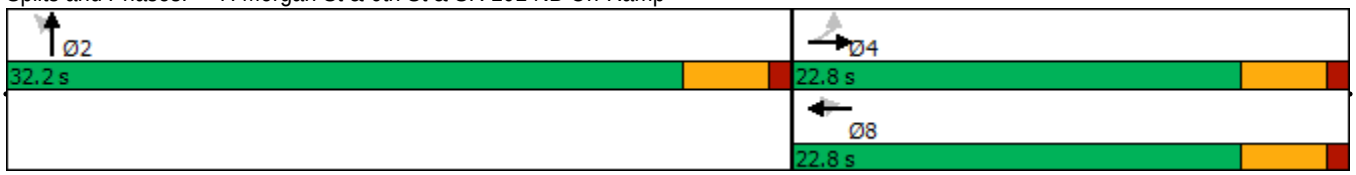
Approach	WB	NB	SB
HCM Control Delay, s	14	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	358	635	1115	-
HCM Lane V/C Ratio	-	-	0.091	0.034	0.019	-
HCM Control Delay (s)	-	-	16.1	10.9	8.3	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.1	0.1	-

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	90	220	180	90	40	970	160
Future Volume (vph)	90	220	180	90	40	970	160
Satd. Flow (prot)	1770	1863	1863	1583	0	3458	0
Flt Permitted	0.628					0.998	
Satd. Flow (perm)	1170	1863	1863	1583	0	3458	0
Satd. Flow (RTOR)						46	
Adj. Flow (vph)	98	239	196	98	43	1054	174
Lane Group Flow (vph)	98	239	196	98	0	1271	0
Turn Type	Perm	NA	NA	Perm	Perm	NA	
Protected Phases		4	8			2	
Permitted Phases	4			8	2		
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	
Total Split (s)	22.8	22.8	22.8	22.8	32.2	32.2	
Total Split (%)	41.5%	41.5%	41.5%	41.5%	58.5%	58.5%	
Maximum Green (s)	18.3	18.3	18.3	18.3	27.7	27.7	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5		4.5	
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	
Act Effct Green (s)	11.6	11.6	11.6	11.6		28.8	
Actuated g/C Ratio	0.23	0.23	0.23	0.23		0.58	
v/c Ratio	0.36	0.55	0.45	0.26		0.62	
Control Delay	18.9	21.1	19.0	16.4		8.9	
Queue Delay	0.0	0.0	0.0	0.0		0.0	
Total Delay	18.9	21.1	19.0	16.4		8.9	
LOS	B	C	B	B		A	
Approach Delay		20.5	18.1			8.9	
Approach LOS		C	B			A	

Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 49.4	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 12.4	Intersection LOS: B
Intersection Capacity Utilization 58.8%	ICU Level of Service B
Analysis Period (min) 15	

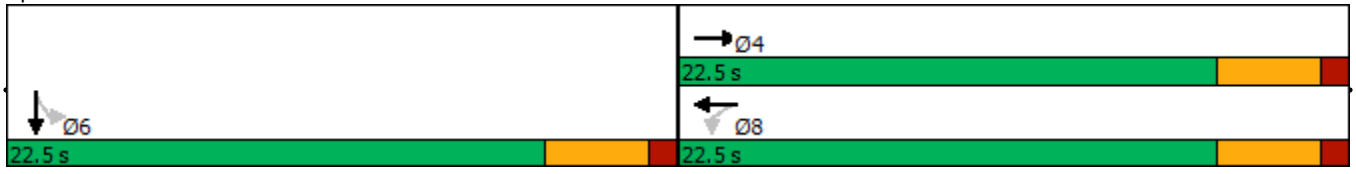
Splits and Phases: 7: Morgan St & 6th St & SR 101 NB On-Ramp



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	140	20	70	110	0	0	0	0	170	650	60
Future Volume (vph)	0	140	20	70	110	0	0	0	0	170	650	60
Satd. Flow (prot)	0	1831	0	0	1827	0	0	0	0	0	3469	0
Flt Permitted					0.798						0.990	
Satd. Flow (perm)	0	1831	0	0	1486	0	0	0	0	0	3469	0
Satd. Flow (RTOR)		19									20	
Adj. Flow (vph)	0	152	22	76	120	0	0	0	0	185	707	65
Lane Group Flow (vph)	0	174	0	0	196	0	0	0	0	0	957	0
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		4			8						6	
Permitted Phases				8						6		
Minimum Initial (s)		5.0		5.0	5.0					5.0	5.0	
Minimum Split (s)		22.5		22.5	22.5					22.5	22.5	
Total Split (s)		22.5		22.5	22.5					22.5	22.5	
Total Split (%)		50.0%		50.0%	50.0%					50.0%	50.0%	
Maximum Green (s)		18.0		18.0	18.0					18.0	18.0	
Yellow Time (s)		3.5		3.5	3.5					3.5	3.5	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Total Lost Time (s)		4.5			4.5						4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	
Recall Mode		None		None	None					Max	Max	
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		11.0		11.0	11.0					11.0	11.0	
Pedestrian Calls (#/hr)		0		0	0					0	0	
Act Effct Green (s)		9.7			9.8						22.0	
Actuated g/C Ratio		0.26			0.26						0.58	
v/c Ratio		0.36			0.51						0.47	
Control Delay		11.7			16.3						7.6	
Queue Delay		0.0			0.0						0.0	
Total Delay		11.7			16.3						7.6	
LOS		B			B						A	
Approach Delay		11.7			16.3						7.6	
Approach LOS		B			B						A	

Intersection Summary	
Cycle Length: 45	
Actuated Cycle Length: 37.8	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.51	
Intersection Signal Delay: 9.4	Intersection LOS: A
Intersection Capacity Utilization 54.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 8: Davis St & 6th St



Intersection	
Intersection Delay, s/veh	38.9
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	210	250	0	0	210	60	100	120	10	100	0	190
Future Vol, veh/h	210	250	0	0	210	60	100	120	10	100	0	190
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	228	272	0	0	228	65	109	130	11	109	0	207
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	67.4	22.1	21	23.6
HCM LOS	F	C	C	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	43%	46%	0%	34%
Vol Thru, %	52%	54%	78%	0%
Vol Right, %	4%	0%	22%	66%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	230	460	270	290
LT Vol	100	210	0	100
Through Vol	120	250	210	0
RT Vol	10	0	60	190
Lane Flow Rate	250	500	293	315
Geometry Grp	1	1	1	1
Degree of Util (X)	0.559	1.001	0.616	0.653
Departure Headway (Hd)	8.051	7.207	7.558	7.458
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	448	505	475	482
Service Time	6.132	5.207	5.634	5.533
HCM Lane V/C Ratio	0.558	0.99	0.617	0.654
HCM Control Delay	21	67.4	22.1	23.6
HCM Lane LOS	C	F	C	C
HCM 95th-tile Q	3.3	13.7	4.1	4.6

Intersection	
Int Delay, s/veh	1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	70	180	20	40	290
Future Vol, veh/h	10	70	180	20	40	290
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	76	196	22	43	315

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	608	207	0	0	218	0
Stage 1	207	-	-	-	-	-
Stage 2	401	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	459	833	-	-	1352	-
Stage 1	828	-	-	-	-	-
Stage 2	676	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	441	833	-	-	1352	-
Mov Cap-2 Maneuver	441	-	-	-	-	-
Stage 1	796	-	-	-	-	-
Stage 2	676	-	-	-	-	-

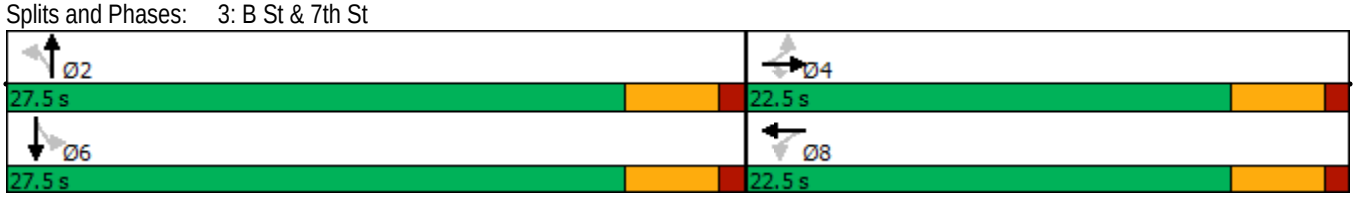
Approach	WB	NB	SB
HCM Control Delay, s	10.4	0	0.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	750	1352	-
HCM Lane V/C Ratio	-	-	0.116	0.032	-
HCM Control Delay (s)	-	-	10.4	7.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	310	210	50	240	30	360	330	220	50	1070	240
Future Volume (vph)	50	310	210	50	240	30	360	330	220	50	1070	240
Satd. Flow (prot)	0	1850	1583	1770	1831	0	1770	1751	0	0	3440	0
Flt Permitted		0.914		0.373			0.173				0.912	
Satd. Flow (perm)	0	1703	1583	695	1831	0	322	1751	0	0	3144	0
Satd. Flow (RTOR)			36		14			89			67	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	391	228	54	294	0	391	598	0	0	1478	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	22.5	22.5	22.5	22.5	22.5		27.5	27.5		27.5	27.5	
Total Split (%)	45.0%	45.0%	45.0%	45.0%	45.0%		55.0%	55.0%		55.0%	55.0%	
Maximum Green (s)	18.0	18.0	18.0	18.0	18.0		23.0	23.0		23.0	23.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Total Lost Time (s)		4.5	4.5	4.5	4.5		4.5	4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effct Green (s)		14.8	14.8	14.8	14.8		23.1	23.1			23.1	
Actuated g/C Ratio		0.31	0.31	0.31	0.31		0.49	0.49			0.49	
v/c Ratio		0.73	0.44	0.25	0.50		2.47	0.66			0.93	
Control Delay		22.9	13.2	14.7	15.4		698.7	12.8			26.3	
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0			0.0	
Total Delay		22.9	13.2	14.7	15.4		698.7	12.8			26.3	
LOS		C	B	B	B		F	B			C	
Approach Delay		19.3			15.3			284.0			26.3	
Approach LOS		B			B			F			C	

Intersection Summary	
Cycle Length: 50	
Actuated Cycle Length: 47	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.47	
Intersection Signal Delay: 98.2	Intersection LOS: F
Intersection Capacity Utilization 118.0%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 3: B St & 7th St



Intersection	
Intersection Delay, s/veh	12.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	0	30	0	20	240	10	20	0	0	400	10
Future Vol, veh/h	10	0	30	0	20	240	10	20	0	0	400	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	0	33	0	22	261	11	22	0	0	435	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.5	10.3	8.7	14.3
HCM LOS	A	B	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	33%	25%	0%	0%
Vol Thru, %	67%	0%	8%	98%
Vol Right, %	0%	75%	92%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	30	40	260	410
LT Vol	10	10	0	0
Through Vol	20	0	20	400
RT Vol	0	30	240	10
Lane Flow Rate	33	43	283	446
Geometry Grp	1	1	1	1
Degree of Util (X)	0.048	0.061	0.361	0.584
Departure Headway (Hd)	5.321	5.066	4.602	4.715
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	665	699	777	758
Service Time	3.42	3.158	2.663	2.781
HCM Lane V/C Ratio	0.05	0.062	0.364	0.588
HCM Control Delay	8.7	8.5	10.3	14.3
HCM Lane LOS	A	A	B	B
HCM 95th-tile Q	0.2	0.2	1.7	3.8

Intersection	
Int Delay, s/veh	34.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	290	140	30	270	560	0
Future Vol, veh/h	290	140	30	270	560	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	50	75	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	315	152	33	293	609	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	968	609	609	0	-	0
Stage 1	609	-	-	-	-	-
Stage 2	359	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	~ 282	495	970	-	-	0
Stage 1	543	-	-	-	-	0
Stage 2	707	-	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	~ 272	495	970	-	-	-
Mov Cap-2 Maneuver	~ 272	-	-	-	-	-
Stage 1	525	-	-	-	-	-
Stage 2	707	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	102.4	0.9	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	970	-	272	495	-
HCM Lane V/C Ratio	0.034	-	1.159	0.307	-
HCM Control Delay (s)	8.8	-	144.4	15.5	-
HCM Lane LOS	A	-	F	C	-
HCM 95th %tile Q(veh)	0.1	-	13.9	1.3	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	20	220	20	0	0
Future Vol, veh/h	0	20	220	20	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	16979
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	22	239	22	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	250	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	789	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	789	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	9.7	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	789
HCM Lane V/C Ratio	-	-	0.028
HCM Control Delay (s)	-	-	9.7
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.1

Intersection	
Int Delay, s/veh	4.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	100	30	300	90	80	620
Future Vol, veh/h	100	30	300	90	80	620
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	70	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	109	33	326	98	87	674

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1223	375	0	0	424	0
Stage 1	375	-	-	-	-	-
Stage 2	848	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	198	671	-	-	1135	-
Stage 1	695	-	-	-	-	-
Stage 2	420	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	183	671	-	-	1135	-
Mov Cap-2 Maneuver	183	-	-	-	-	-
Stage 1	641	-	-	-	-	-
Stage 2	420	-	-	-	-	-

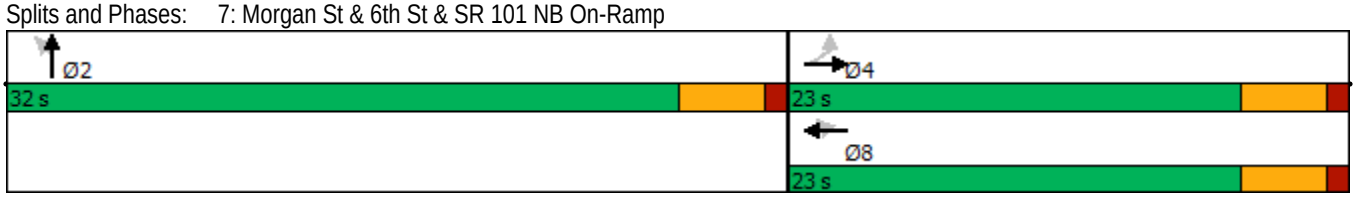
Approach	WB	NB	SB
HCM Control Delay, s	40.9	0	1
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	183	671	1135	-
HCM Lane V/C Ratio	-	-	0.594	0.049	0.077	-
HCM Control Delay (s)	-	-	50	10.6	8.4	-
HCM Lane LOS	-	-	F	B	A	-
HCM 95th %tile Q(veh)	-	-	3.3	0.2	0.2	-

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	80	170	390	260	70	1010	190
Future Volume (vph)	80	170	390	260	70	1010	190
Satd. Flow (prot)	1770	1863	1863	1583	0	3451	0
Flt Permitted	0.298					0.997	
Satd. Flow (perm)	555	1863	1863	1583	0	3451	0
Satd. Flow (RTOR)						52	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)							
Lane Group Flow (vph)	87	185	424	283	0	1381	0
Turn Type	Perm	NA	NA	Perm	Perm	NA	
Protected Phases		4	8			2	
Permitted Phases	4			8	2		
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	
Total Split (s)	23.0	23.0	23.0	23.0	32.0	32.0	
Total Split (%)	41.8%	41.8%	41.8%	41.8%	58.2%	58.2%	
Maximum Green (s)	18.5	18.5	18.5	18.5	27.5	27.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5		4.5	
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	
Act Effct Green (s)	16.1	16.1	16.1	16.1		27.6	
Actuated g/C Ratio	0.31	0.31	0.31	0.31		0.52	
v/c Ratio	0.51	0.33	0.75	0.59		0.75	
Control Delay	27.1	15.6	25.6	20.9		13.5	
Queue Delay	0.0	0.0	0.0	0.0		0.0	
Total Delay	27.1	15.6	25.6	20.9		13.5	
LOS	C	B	C	C		B	
Approach Delay		19.3	23.7			13.5	
Approach LOS		B	C			B	

Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 52.7	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.75	
Intersection Signal Delay: 17.2	Intersection LOS: B
Intersection Capacity Utilization 72.2%	ICU Level of Service C
Analysis Period (min) 15	

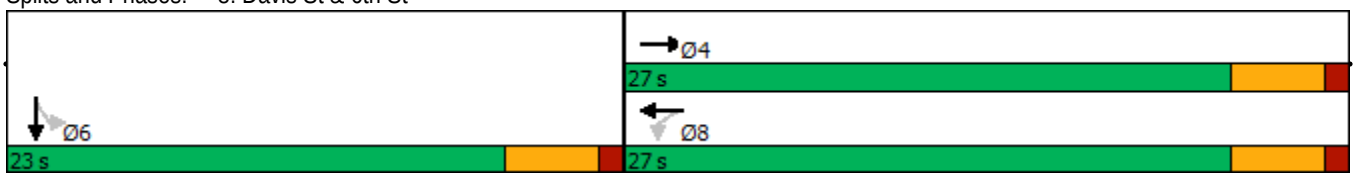
Splits and Phases: 7: Morgan St & 6th St & SR 101 NB On-Ramp



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	130	50	240	170	0	0	0	0	90	550	80
Future Volume (vph)	0	130	50	240	170	0	0	0	0	90	550	80
Satd. Flow (prot)	0	1794	0	0	1811	0	0	0	0	0	3458	0
Flt Permitted					0.713						0.994	
Satd. Flow (perm)	0	1794	0	0	1328	0	0	0	0	0	3458	0
Satd. Flow (RTOR)		50									31	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	195	0	0	446	0	0	0	0	0	783	0
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		4			8						6	
Permitted Phases				8						6		
Minimum Initial (s)		5.0		5.0	5.0					5.0	5.0	
Minimum Split (s)		22.5		22.5	22.5					22.5	22.5	
Total Split (s)		27.0		27.0	27.0					23.0	23.0	
Total Split (%)		54.0%		54.0%	54.0%					46.0%	46.0%	
Maximum Green (s)		22.5		22.5	22.5					18.5	18.5	
Yellow Time (s)		3.5		3.5	3.5					3.5	3.5	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Total Lost Time (s)		4.5			4.5						4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	
Recall Mode		None		None	None					Max	Max	
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		11.0		11.0	11.0					11.0	11.0	
Pedestrian Calls (#/hr)		0		0	0					0	0	
Act Effct Green (s)		19.0			19.0						18.6	
Actuated g/C Ratio		0.41			0.41						0.40	
v/c Ratio		0.26			0.83						0.56	
Control Delay		7.5			27.6						13.1	
Queue Delay		0.0			0.0						0.0	
Total Delay		7.5			27.6						13.1	
LOS		A			C						B	
Approach Delay		7.5			27.6						13.1	
Approach LOS		A			C						B	

Intersection Summary	
Cycle Length: 50	
Actuated Cycle Length: 46.7	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 16.9	Intersection LOS: B
Intersection Capacity Utilization 63.7%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 8: Davis St & 6th St



Intersection	
Intersection Delay, s/veh	47.4
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	270	274	0	0	202	40	87	165	10	37	0	160
Future Vol, veh/h	270	274	0	0	202	40	87	165	10	37	0	160
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	293	298	0	0	220	43	95	179	11	40	0	174
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	85.3	17.5	20.1	15.6
HCM LOS	F	C	C	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	33%	50%	0%	19%
Vol Thru, %	63%	50%	83%	0%
Vol Right, %	4%	0%	17%	81%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	262	544	242	197
LT Vol	87	270	0	37
Through Vol	165	274	202	0
RT Vol	10	0	40	160
Lane Flow Rate	285	591	263	214
Geometry Grp	1	1	1	1
Degree of Util (X)	0.569	1.075	0.51	0.421
Departure Headway (Hd)	7.571	6.546	7.214	7.364
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	478	556	502	492
Service Time	5.571	4.574	5.214	5.364
HCM Lane V/C Ratio	0.596	1.063	0.524	0.435
HCM Control Delay	20.1	85.3	17.5	15.6
HCM Lane LOS	C	F	C	C
HCM 95th-tile Q	3.5	17.6	2.9	2.1

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	40	162	10	50	242
Future Vol, veh/h	10	40	162	10	50	242
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	43	176	11	54	263

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	553	182	0	0	187	0
Stage 1	182	-	-	-	-	-
Stage 2	371	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	494	861	-	-	1387	-
Stage 1	849	-	-	-	-	-
Stage 2	698	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	471	861	-	-	1387	-
Mov Cap-2 Maneuver	471	-	-	-	-	-
Stage 1	810	-	-	-	-	-
Stage 2	698	-	-	-	-	-

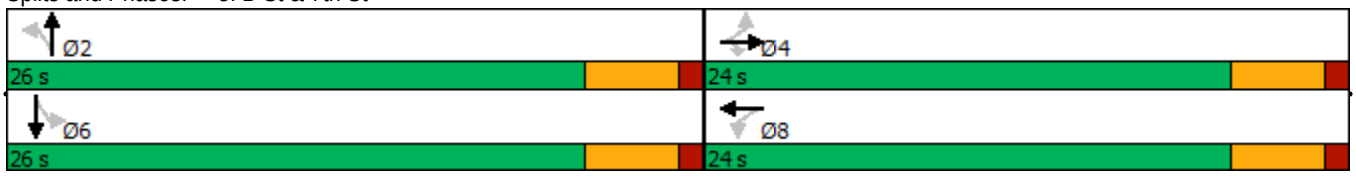
Approach	WB	NB	SB
HCM Control Delay, s	10.3	0	1.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	739	1387	-
HCM Lane V/C Ratio	-	-	0.074	0.039	-
HCM Control Delay (s)	-	-	10.3	7.7	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	397	82	40	191	20	134	360	140	30	460	144
Future Volume (vph)	62	397	82	40	191	20	134	360	140	30	460	144
Satd. Flow (prot)	0	1850	1583	1770	1837	0	1770	1785	0	0	3412	0
Flt Permitted		0.925		0.277			0.351				0.917	
Satd. Flow (perm)	0	1723	1583	516	1837	0	654	1785	0	0	3135	0
Satd. Flow (RTOR)			89		12			49			96	
Adj. Flow (vph)	67	432	89	43	208	22	146	391	152	33	500	157
Lane Group Flow (vph)	0	499	89	43	230	0	146	543	0	0	690	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	24.0	24.0	24.0	24.0	24.0		26.0	26.0		26.0	26.0	
Total Split (%)	48.0%	48.0%	48.0%	48.0%	48.0%		52.0%	52.0%		52.0%	52.0%	
Maximum Green (s)	19.5	19.5	19.5	19.5	19.5		21.5	21.5		21.5	21.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Total Lost Time (s)		4.5	4.5	4.5	4.5		4.5	4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effct Green (s)		17.1	17.1	17.1	17.1		21.6	21.6			21.6	
Actuated g/C Ratio		0.36	0.36	0.36	0.36		0.45	0.45			0.45	
v/c Ratio		0.81	0.14	0.23	0.35		0.49	0.65			0.47	
Control Delay		26.2	3.6	14.1	12.0		17.6	14.5			9.5	
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0			0.0	
Total Delay		26.2	3.6	14.1	12.0		17.6	14.5			9.5	
LOS		C	A	B	B		B	B			A	
Approach Delay		22.8			12.3			15.1			9.5	
Approach LOS		C			B			B			A	

Intersection Summary	
Cycle Length: 50	
Actuated Cycle Length: 47.8	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.81	
Intersection Signal Delay: 15.1	Intersection LOS: B
Intersection Capacity Utilization 96.2%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 3: B St & 7th St



Intersection	
Intersection Delay, s/veh	10.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	0	24	0	20	220	12	12	0	0	322	10
Future Vol, veh/h	10	0	24	0	20	220	12	12	0	0	322	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	0	26	0	22	239	13	13	0	0	350	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.1	9.4	8.4	11.6
HCM LOS	A	A	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	50%	29%	0%	0%
Vol Thru, %	50%	0%	8%	97%
Vol Right, %	0%	71%	92%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	34	240	332
LT Vol	12	10	0	0
Through Vol	12	0	20	322
RT Vol	0	24	220	10
Lane Flow Rate	26	37	261	361
Geometry Grp	1	1	1	1
Degree of Util (X)	0.037	0.049	0.316	0.462
Departure Headway (Hd)	5.14	4.81	4.36	4.612
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	692	740	822	779
Service Time	3.205	2.869	2.398	2.658
HCM Lane V/C Ratio	0.038	0.05	0.318	0.463
HCM Control Delay	8.4	8.1	9.4	11.6
HCM Lane LOS	A	A	A	B
HCM 95th-tile Q	0.1	0.2	1.4	2.5

Intersection	
Int Delay, s/veh	9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	252	94	24	339	228	0
Future Vol, veh/h	252	94	24	339	228	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	50	75	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	274	102	26	368	248	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	668	248	248	0	-	0
Stage 1	248	-	-	-	-	-
Stage 2	420	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	423	791	1318	-	-	0
Stage 1	793	-	-	-	-	0
Stage 2	663	-	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	415	791	1318	-	-	-
Mov Cap-2 Maneuver	415	-	-	-	-	-
Stage 1	777	-	-	-	-	-
Stage 2	663	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	23.9	0.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	1318	-	415	791	-
HCM Lane V/C Ratio	0.02	-	0.66	0.129	-
HCM Control Delay (s)	7.8	-	29	10.2	-
HCM Lane LOS	A	-	D	B	-
HCM 95th %tile Q(veh)	0.1	-	4.6	0.4	-

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	12	259	25	0	0
Future Vol, veh/h	0	12	259	25	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	16979
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	13	282	27	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	296	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	743	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	743	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	9.9	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	743
HCM Lane V/C Ratio	-	-	0.018
HCM Control Delay (s)	-	-	9.9
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.1

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	20	371	50	20	311
Future Vol, veh/h	30	20	371	50	20	311
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	70	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	22	403	54	22	338

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	812	430	0	0	457	0
Stage 1	430	-	-	-	-	-
Stage 2	382	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	348	625	-	-	1104	-
Stage 1	656	-	-	-	-	-
Stage 2	690	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	341	625	-	-	1104	-
Mov Cap-2 Maneuver	341	-	-	-	-	-
Stage 1	643	-	-	-	-	-
Stage 2	690	-	-	-	-	-

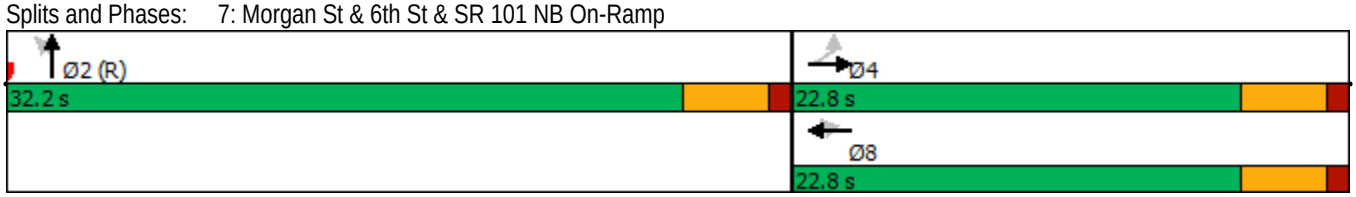
Approach	WB	NB	SB
HCM Control Delay, s	14.4	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	341	625	1104	-
HCM Lane V/C Ratio	-	-	0.096	0.035	0.02	-
HCM Control Delay (s)	-	-	16.7	11	8.3	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.1	0.1	-

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	104	227	194	97	40	977	164
Future Volume (vph)	104	227	194	97	40	977	164
Satd. Flow (prot)	1770	1863	1863	1583	0	3458	0
Flt Permitted	0.573					0.998	
Satd. Flow (perm)	1067	1863	1863	1583	0	3458	0
Satd. Flow (RTOR)						47	
Adj. Flow (vph)	113	247	211	105	43	1062	178
Lane Group Flow (vph)	113	247	211	105	0	1283	0
Turn Type	Perm	NA	NA	Perm	Perm	NA	
Protected Phases		4	8			2	
Permitted Phases	4			8	2		
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	
Total Split (s)	22.8	22.8	22.8	22.8	32.2	32.2	
Total Split (%)	41.5%	41.5%	41.5%	41.5%	58.5%	58.5%	
Maximum Green (s)	18.3	18.3	18.3	18.3	27.7	27.7	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5		4.5	
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	
Act Effct Green (s)	12.9	12.9	12.9	12.9		33.1	
Actuated g/C Ratio	0.23	0.23	0.23	0.23		0.60	
v/c Ratio	0.45	0.57	0.48	0.28		0.61	
Control Delay	22.7	23.0	21.0	17.7		9.1	
Queue Delay	0.0	0.0	0.0	0.0		0.0	
Total Delay	22.7	23.0	21.0	17.7		9.1	
LOS	C	C	C	B		A	
Approach Delay		22.9	19.9			9.1	
Approach LOS		C	B			A	

Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 55	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:, Start of Green	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 13.4	Intersection LOS: B
Intersection Capacity Utilization 60.6%	ICU Level of Service B
Analysis Period (min) 15	

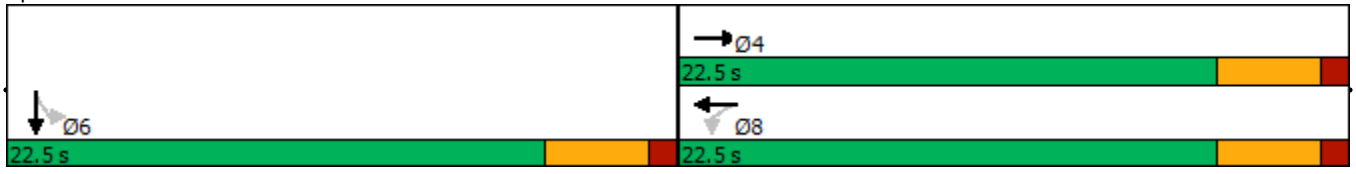
Splits and Phases: 7: Morgan St & 6th St & SR 101 NB On-Ramp



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	151	20	77	117	0	0	0	0	181	650	60
Future Volume (vph)	0	151	20	77	117	0	0	0	0	181	650	60
Satd. Flow (prot)	0	1833	0	0	1825	0	0	0	0	0	3469	0
Flt Permitted					0.788						0.990	
Satd. Flow (perm)	0	1833	0	0	1468	0	0	0	0	0	3469	0
Satd. Flow (RTOR)		18									19	
Adj. Flow (vph)	0	164	22	84	127	0	0	0	0	197	707	65
Lane Group Flow (vph)	0	186	0	0	211	0	0	0	0	0	969	0
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		4			8						6	
Permitted Phases				8						6		
Minimum Initial (s)		5.0		5.0	5.0					5.0	5.0	
Minimum Split (s)		22.5		22.5	22.5					22.5	22.5	
Total Split (s)		22.5		22.5	22.5					22.5	22.5	
Total Split (%)		50.0%		50.0%	50.0%					50.0%	50.0%	
Maximum Green (s)		18.0		18.0	18.0					18.0	18.0	
Yellow Time (s)		3.5		3.5	3.5					3.5	3.5	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Total Lost Time (s)		4.5			4.5						4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	
Recall Mode		None		None	None					Max	Max	
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		11.0		11.0	11.0					11.0	11.0	
Pedestrian Calls (#/hr)		0		0	0					0	0	
Act Effct Green (s)		10.2			10.3						22.1	
Actuated g/C Ratio		0.27			0.27						0.58	
v/c Ratio		0.37			0.53						0.48	
Control Delay		11.8			16.7						8.0	
Queue Delay		0.0			0.0						0.0	
Total Delay		11.8			16.7						8.0	
LOS		B			B						A	
Approach Delay		11.8			16.7						8.0	
Approach LOS		B			B						A	

Intersection Summary	
Cycle Length: 45	
Actuated Cycle Length: 38.3	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.53	
Intersection Signal Delay: 9.9	Intersection LOS: A
Intersection Capacity Utilization 56.0%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 8: Davis St & 6th St



Intersection	
Intersection Delay, s/veh	43.8
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	210	260	0	0	214	60	112	128	10	105	0	190
Future Vol, veh/h	210	260	0	0	214	60	112	128	10	105	0	190
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	228	283	0	0	233	65	122	139	11	114	0	207
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	78.9	23	23	24.7
HCM LOS	F	C	C	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	45%	45%	0%	36%
Vol Thru, %	51%	55%	78%	0%
Vol Right, %	4%	0%	22%	64%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	250	470	274	295
LT Vol	112	210	0	105
Through Vol	128	260	214	0
RT Vol	10	0	60	190
Lane Flow Rate	272	511	298	321
Geometry Grp	1	1	1	1
Degree of Util (X)	0.601	1.041	0.625	0.663
Departure Headway (Hd)	8.266	7.333	7.84	7.736
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	440	501	465	471
Service Time	6.266	5.333	5.84	5.736
HCM Lane V/C Ratio	0.618	1.02	0.641	0.682
HCM Control Delay	23	78.9	23	24.7
HCM Lane LOS	C	F	C	C
HCM 95th-tile Q	3.8	15.2	4.2	4.8

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	70	184	20	40	304
Future Vol, veh/h	10	70	184	20	40	304
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	76	200	22	43	330

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	627	211	0	0	222	0
Stage 1	211	-	-	-	-	-
Stage 2	416	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	447	829	-	-	1347	-
Stage 1	824	-	-	-	-	-
Stage 2	666	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	430	829	-	-	1347	-
Mov Cap-2 Maneuver	430	-	-	-	-	-
Stage 1	792	-	-	-	-	-
Stage 2	666	-	-	-	-	-

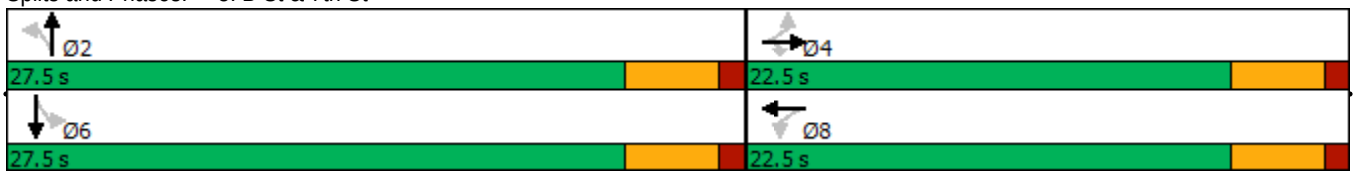
Approach	WB	NB	SB
HCM Control Delay, s	10.5	0	0.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	743	1347	-
HCM Lane V/C Ratio	-	-	0.117	0.032	-
HCM Control Delay (s)	-	-	10.5	7.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	322	214	50	247	30	362	330	220	50	1070	242
Future Volume (vph)	54	322	214	50	247	30	362	330	220	50	1070	242
Satd. Flow (prot)	0	1850	1583	1770	1833	0	1770	1751	0	0	3437	0
Flt Permitted		0.908		0.356			0.173				0.903	
Satd. Flow (perm)	0	1691	1583	663	1833	0	322	1751	0	0	3110	0
Satd. Flow (RTOR)			36		14			89			68	
Adj. Flow (vph)	59	350	233	54	268	33	393	359	239	54	1163	263
Lane Group Flow (vph)	0	409	233	54	301	0	393	598	0	0	1480	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	22.5	22.5	22.5	22.5	22.5		27.5	27.5		27.5	27.5	
Total Split (%)	45.0%	45.0%	45.0%	45.0%	45.0%		55.0%	55.0%		55.0%	55.0%	
Maximum Green (s)	18.0	18.0	18.0	18.0	18.0		23.0	23.0		23.0	23.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Total Lost Time (s)		4.5	4.5	4.5	4.5		4.5	4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effct Green (s)		15.5	15.5	15.5	15.5		23.1	23.1			23.1	
Actuated g/C Ratio		0.32	0.32	0.32	0.32		0.48	0.48			0.48	
v/c Ratio		0.74	0.43	0.25	0.50		2.52	0.67			0.96	
Control Delay		23.8	13.1	14.9	15.2		721.5	13.3			30.5	
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0			0.0	
Total Delay		23.8	13.1	14.9	15.2		721.5	13.3			30.5	
LOS		C	B	B	B		F	B			C	
Approach Delay		19.9			15.2			294.2			30.5	
Approach LOS		B			B			F			C	

Intersection Summary	
Cycle Length: 50	
Actuated Cycle Length: 47.7	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.52	
Intersection Signal Delay: 102.3	Intersection LOS: F
Intersection Capacity Utilization 119.3%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 3: B St & 7th St



Intersection	
Intersection Delay, s/veh	12.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	0	38	0	20	240	14	24	0	0	414	10
Future Vol, veh/h	10	0	38	0	20	240	14	24	0	0	414	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	0	41	0	22	261	15	26	0	0	450	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.6	10.5	8.9	15.1
HCM LOS	A	B	A	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	37%	21%	0%	0%
Vol Thru, %	63%	0%	8%	98%
Vol Right, %	0%	79%	92%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	38	48	260	424
LT Vol	14	10	0	0
Through Vol	24	0	20	414
RT Vol	0	38	240	10
Lane Flow Rate	41	52	283	461
Geometry Grp	1	1	1	1
Degree of Util (X)	0.063	0.076	0.367	0.609
Departure Headway (Hd)	5.495	5.21	4.676	4.755
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	655	691	763	751
Service Time	3.499	3.212	2.753	2.835
HCM Lane V/C Ratio	0.063	0.075	0.371	0.614
HCM Control Delay	8.9	8.6	10.5	15.1
HCM Lane LOS	A	A	B	C
HCM 95th-tile Q	0.2	0.2	1.7	4.2

Intersection	
Int Delay, s/veh	42.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	294	158	38	285	572	0
Future Vol, veh/h	294	158	38	285	572	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	50	75	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	320	172	41	310	622	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1014	622	622	0	-	0
Stage 1	622	-	-	-	-	-
Stage 2	392	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	~ 264	487	959	-	-	0
Stage 1	535	-	-	-	-	0
Stage 2	683	-	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	~ 253	487	959	-	-	-
Mov Cap-2 Maneuver	~ 253	-	-	-	-	-
Stage 1	512	-	-	-	-	-
Stage 2	683	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	126.8	1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	959	-	253	487	-
HCM Lane V/C Ratio	0.043	-	1.263	0.353	-
HCM Control Delay (s)	8.9	-	186.1	16.4	-
HCM Lane LOS	A	-	F	C	-
HCM 95th %tile Q(veh)	0.1	-	15.9	1.6	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	24	235	28	0	0
Future Vol, veh/h	0	24	235	28	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	16979
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	26	255	30	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	270	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	769	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	769	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	9.8	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	769
HCM Lane V/C Ratio	-	-	0.034
HCM Control Delay (s)	-	-	9.8
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.1

Intersection	
Int Delay, s/veh	5.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	100	30	307	90	80	655
Future Vol, veh/h	100	30	307	90	80	655
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	70	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	109	33	334	98	87	712

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1269	383	0	0	432	0
Stage 1	383	-	-	-	-	-
Stage 2	886	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	186	664	-	-	1128	-
Stage 1	689	-	-	-	-	-
Stage 2	403	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	172	664	-	-	1128	-
Mov Cap-2 Maneuver	172	-	-	-	-	-
Stage 1	636	-	-	-	-	-
Stage 2	403	-	-	-	-	-

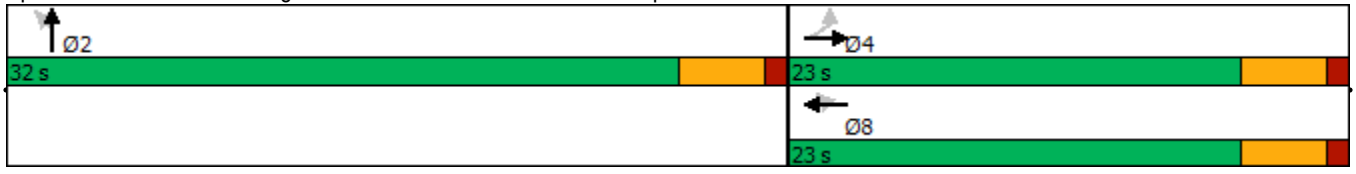
Approach	WB	NB	SB
HCM Control Delay, s	45.8	0	0.9
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	172	664	1128	-
HCM Lane V/C Ratio	-	-	0.632	0.049	0.077	-
HCM Control Delay (s)	-	-	56.3	10.7	8.5	-
HCM Lane LOS	-	-	F	B	A	-
HCM 95th %tile Q(veh)	-	-	3.6	0.2	0.2	-

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	90	175	413	272	70	1015	192
Future Volume (vph)	90	175	413	272	70	1015	192
Satd. Flow (prot)	1770	1863	1863	1583	0	3447	0
Flt Permitted	0.270					0.997	
Satd. Flow (perm)	503	1863	1863	1583	0	3447	0
Satd. Flow (RTOR)						52	
Adj. Flow (vph)	98	190	449	296	76	1103	209
Lane Group Flow (vph)	98	190	449	296	0	1388	0
Turn Type	Perm	NA	NA	Perm	Perm	NA	
Protected Phases		4	8			2	
Permitted Phases	4			8	2		
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	
Total Split (s)	23.0	23.0	23.0	23.0	32.0	32.0	
Total Split (%)	41.8%	41.8%	41.8%	41.8%	58.2%	58.2%	
Maximum Green (s)	18.5	18.5	18.5	18.5	27.5	27.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5		4.5	
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	
Act Effct Green (s)	16.5	16.5	16.5	16.5		27.6	
Actuated g/C Ratio	0.31	0.31	0.31	0.31		0.52	
v/c Ratio	0.63	0.33	0.78	0.60		0.76	
Control Delay	37.1	15.6	27.5	21.2		13.9	
Queue Delay	0.0	0.0	0.0	0.0		0.0	
Total Delay	37.1	15.6	27.5	21.2		13.9	
LOS	D	B	C	C		B	
Approach Delay		22.9	25.0			13.9	
Approach LOS		C	C			B	

Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 53.1	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 18.4	Intersection LOS: B
Intersection Capacity Utilization 74.2%	ICU Level of Service D
Analysis Period (min) 15	

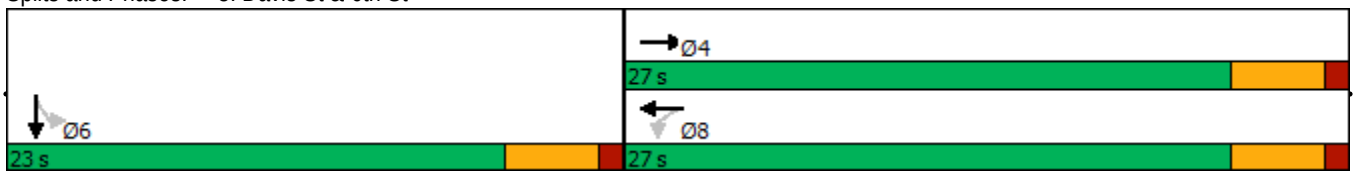
Splits and Phases: 7: Morgan St & 6th St & SR 101 NB On-Ramp



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	137	50	252	182	0	0	0	0	97	550	80
Future Volume (vph)	0	137	50	252	182	0	0	0	0	97	550	80
Satd. Flow (prot)	0	1796	0	0	1811	0	0	0	0	0	3455	0
Flt Permitted					0.710						0.993	
Satd. Flow (perm)	0	1796	0	0	1323	0	0	0	0	0	3455	0
Satd. Flow (RTOR)		47									30	
Adj. Flow (vph)	0	149	54	274	198	0	0	0	0	105	598	87
Lane Group Flow (vph)	0	203	0	0	472	0	0	0	0	0	790	0
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		4			8						6	
Permitted Phases				8						6		
Minimum Initial (s)		5.0		5.0	5.0					5.0	5.0	
Minimum Split (s)		22.5		22.5	22.5					22.5	22.5	
Total Split (s)		27.0		27.0	27.0					23.0	23.0	
Total Split (%)		54.0%		54.0%	54.0%					46.0%	46.0%	
Maximum Green (s)		22.5		22.5	22.5					18.5	18.5	
Yellow Time (s)		3.5		3.5	3.5					3.5	3.5	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Total Lost Time (s)		4.5			4.5						4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	
Recall Mode		None		None	None					Max	Max	
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		11.0		11.0	11.0					11.0	11.0	
Pedestrian Calls (#/hr)		0		0	0					0	0	
Act Effct Green (s)		19.7			19.7						18.6	
Actuated g/C Ratio		0.42			0.42						0.39	
v/c Ratio		0.26			0.86						0.57	
Control Delay		7.7			30.6						13.6	
Queue Delay		0.0			0.0						0.0	
Total Delay		7.7			30.6						13.6	
LOS		A			C						B	
Approach Delay		7.7			30.6						13.6	
Approach LOS		A			C						B	

Intersection Summary	
Cycle Length: 50	
Actuated Cycle Length: 47.4	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 18.2	Intersection LOS: B
Intersection Capacity Utilization 65.6%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 8: Davis St & 6th St



Intersection	
Intersection Delay, s/veh	54.7
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	270	274	0	0	229	45	95	182	10	37	0	160
Future Vol, veh/h	270	274	0	0	229	45	95	182	10	37	0	160
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	293	298	0	0	249	49	103	198	11	40	0	174
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	101.7	20.9	24	16.7
HCM LOS	F	C	C	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	33%	50%	0%	19%
Vol Thru, %	63%	50%	84%	0%
Vol Right, %	3%	0%	16%	81%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	287	544	274	197
LT Vol	95	270	0	37
Through Vol	182	274	229	0
RT Vol	10	0	45	160
Lane Flow Rate	312	591	298	214
Geometry Grp	1	1	1	1
Degree of Util (X)	0.644	1.12	0.592	0.437
Departure Headway (Hd)	7.848	6.82	7.521	7.792
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	465	532	482	465
Service Time	5.848	4.893	5.521	5.792
HCM Lane V/C Ratio	0.671	1.111	0.618	0.46
HCM Control Delay	24	101.7	20.9	16.7
HCM Lane LOS	C	F	C	C
HCM 95th-tile Q	4.5	19.2	3.8	2.2

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	40	194	10	50	242
Future Vol, veh/h	10	40	194	10	50	242
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	43	211	11	54	263

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	588	217	0	0	222	0
Stage 1	217	-	-	-	-	-
Stage 2	371	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	471	823	-	-	1347	-
Stage 1	819	-	-	-	-	-
Stage 2	698	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	449	823	-	-	1347	-
Mov Cap-2 Maneuver	449	-	-	-	-	-
Stage 1	781	-	-	-	-	-
Stage 2	698	-	-	-	-	-

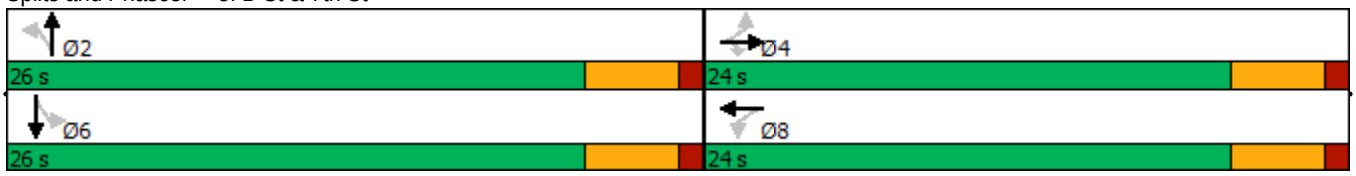
Approach	WB	NB	SB
HCM Control Delay, s	10.5	0	1.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	705	1347	-
HCM Lane V/C Ratio	-	-	0.077	0.04	-
HCM Control Delay (s)	-	-	10.5	7.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	397	82	40	191	20	134	360	140	30	460	144
Future Volume (vph)	62	397	82	40	191	20	134	360	140	30	460	144
Satd. Flow (prot)	0	1850	1583	1770	1837	0	1770	1785	0	0	3412	0
Flt Permitted		0.925		0.277			0.351				0.917	
Satd. Flow (perm)	0	1723	1583	516	1837	0	654	1785	0	0	3135	0
Satd. Flow (RTOR)			89		12			49			96	
Adj. Flow (vph)	67	432	89	43	208	22	146	391	152	33	500	157
Lane Group Flow (vph)	0	499	89	43	230	0	146	543	0	0	690	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	24.0	24.0	24.0	24.0	24.0		26.0	26.0		26.0	26.0	
Total Split (%)	48.0%	48.0%	48.0%	48.0%	48.0%		52.0%	52.0%		52.0%	52.0%	
Maximum Green (s)	19.5	19.5	19.5	19.5	19.5		21.5	21.5		21.5	21.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Total Lost Time (s)		4.5	4.5	4.5	4.5		4.5	4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effct Green (s)		17.1	17.1	17.1	17.1		21.6	21.6			21.6	
Actuated g/C Ratio		0.36	0.36	0.36	0.36		0.45	0.45			0.45	
v/c Ratio		0.81	0.14	0.23	0.35		0.49	0.65			0.47	
Control Delay		26.2	3.6	14.1	12.0		17.6	14.5			9.5	
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0			0.0	
Total Delay		26.2	3.6	14.1	12.0		17.6	14.5			9.5	
LOS		C	A	B	B		B	B			A	
Approach Delay		22.8			12.3			15.1			9.5	
Approach LOS		C			B			B			A	

Intersection Summary	
Cycle Length: 50	
Actuated Cycle Length: 47.8	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.81	
Intersection Signal Delay: 15.1	Intersection LOS: B
Intersection Capacity Utilization 96.2%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 3: B St & 7th St



Intersection	
Intersection Delay, s/veh	10.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	240	0	24	0	0	332	0
Future Vol, veh/h	0	0	0	0	0	240	0	24	0	0	332	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	261	0	26	0	0	361	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	0	9.2	8.2	11.3
HCM LOS	-	A	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	0%	0%
Vol Thru, %	100%	100%	0%	100%
Vol Right, %	0%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	0	240	332
LT Vol	0	0	0	0
Through Vol	24	0	0	332
RT Vol	0	0	240	0
Lane Flow Rate	26	0	261	361
Geometry Grp	1	1	1	1
Degree of Util (X)	0.036	0	0.308	0.455
Departure Headway (Hd)	4.929	5.163	4.249	4.539
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	723	0	845	794
Service Time	2.98	3.213	2.277	2.576
HCM Lane V/C Ratio	0.036	0	0.309	0.455
HCM Control Delay	8.2	8.2	9.2	11.3
HCM Lane LOS	A	N	A	B
HCM 95th-tile Q	0.1	0	1.3	2.4

Intersection	
Int Delay, s/veh	8.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	240	92	24	339	228	0
Future Vol, veh/h	240	92	24	339	228	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	50	75	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	261	100	26	368	248	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	668	248	248	0	-	0
Stage 1	248	-	-	-	-	-
Stage 2	420	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	423	791	1318	-	-	0
Stage 1	793	-	-	-	-	0
Stage 2	663	-	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	415	791	1318	-	-	-
Mov Cap-2 Maneuver	415	-	-	-	-	-
Stage 1	777	-	-	-	-	-
Stage 2	663	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	22.6	0.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	1318	-	415	791	-
HCM Lane V/C Ratio	0.02	-	0.629	0.126	-
HCM Control Delay (s)	7.8	-	27.3	10.2	-
HCM Lane LOS	A	-	D	B	-
HCM 95th %tile Q(veh)	0.1	-	4.2	0.4	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	284	0	0	0
Future Vol, veh/h	0	0	284	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	16979
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	309	0	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	309	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	731	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	731	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	0	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	0
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	20	371	50	20	321
Future Vol, veh/h	30	20	371	50	20	321
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	70	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	22	403	54	22	349

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	823	430	0	0	457	0
Stage 1	430	-	-	-	-	-
Stage 2	393	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	343	625	-	-	1104	-
Stage 1	656	-	-	-	-	-
Stage 2	682	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	336	625	-	-	1104	-
Mov Cap-2 Maneuver	336	-	-	-	-	-
Stage 1	643	-	-	-	-	-
Stage 2	682	-	-	-	-	-

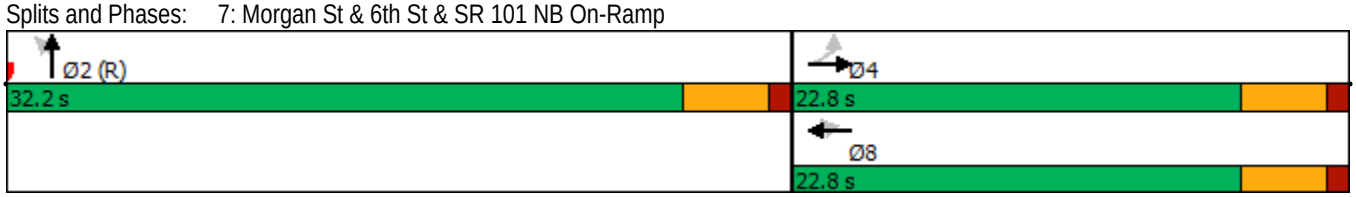
Approach	WB	NB	SB
HCM Control Delay, s	14.5	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	336	625	1104	-
HCM Lane V/C Ratio	-	-	0.097	0.035	0.02	-
HCM Control Delay (s)	-	-	16.9	11	8.3	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.1	0.1	-

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	104	227	204	97	40	977	164
Future Volume (vph)	104	227	204	97	40	977	164
Satd. Flow (prot)	1770	1863	1863	1583	0	3458	0
Flt Permitted	0.551					0.998	
Satd. Flow (perm)	1026	1863	1863	1583	0	3458	0
Satd. Flow (RTOR)						47	
Adj. Flow (vph)	113	247	222	105	43	1062	178
Lane Group Flow (vph)	113	247	222	105	0	1283	0
Turn Type	Perm	NA	NA	Perm	Perm	NA	
Protected Phases		4	8			2	
Permitted Phases	4			8	2		
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	
Total Split (s)	22.8	22.8	22.8	22.8	32.2	32.2	
Total Split (%)	41.5%	41.5%	41.5%	41.5%	58.5%	58.5%	
Maximum Green (s)	18.3	18.3	18.3	18.3	27.7	27.7	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5		4.5	
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	
Act Effct Green (s)	12.9	12.9	12.9	12.9		33.1	
Actuated g/C Ratio	0.23	0.23	0.23	0.23		0.60	
v/c Ratio	0.47	0.57	0.51	0.28		0.61	
Control Delay	23.5	23.0	21.6	17.7		9.1	
Queue Delay	0.0	0.0	0.0	0.0		0.0	
Total Delay	23.5	23.0	21.6	17.7		9.1	
LOS	C	C	C	B		A	
Approach Delay		23.1	20.3			9.1	
Approach LOS		C	C			A	

Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 55	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:, Start of Green	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 13.5	Intersection LOS: B
Intersection Capacity Utilization 61.1%	ICU Level of Service B
Analysis Period (min) 15	

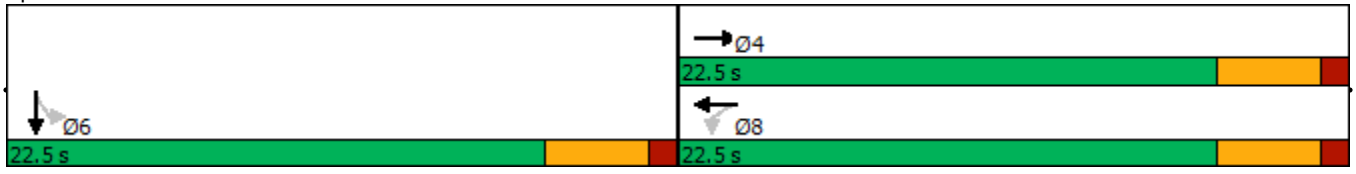
Splits and Phases: 7: Morgan St & 6th St & SR 101 NB On-Ramp



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	151	20	77	127	0	0	0	0	181	650	60
Future Volume (vph)	0	151	20	77	127	0	0	0	0	181	650	60
Satd. Flow (prot)	0	1833	0	0	1827	0	0	0	0	0	3469	0
Flt Permitted					0.797						0.990	
Satd. Flow (perm)	0	1833	0	0	1485	0	0	0	0	0	3469	0
Satd. Flow (RTOR)		18									19	
Adj. Flow (vph)	0	164	22	84	138	0	0	0	0	197	707	65
Lane Group Flow (vph)	0	186	0	0	222	0	0	0	0	0	969	0
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		4			8						6	
Permitted Phases				8						6		
Minimum Initial (s)		5.0		5.0	5.0					5.0	5.0	
Minimum Split (s)		22.5		22.5	22.5					22.5	22.5	
Total Split (s)		22.5		22.5	22.5					22.5	22.5	
Total Split (%)		50.0%		50.0%	50.0%					50.0%	50.0%	
Maximum Green (s)		18.0		18.0	18.0					18.0	18.0	
Yellow Time (s)		3.5		3.5	3.5					3.5	3.5	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Total Lost Time (s)		4.5			4.5						4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	
Recall Mode		None		None	None					Max	Max	
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		11.0		11.0	11.0					11.0	11.0	
Pedestrian Calls (#/hr)		0		0	0					0	0	
Act Effct Green (s)		10.4			10.6						22.1	
Actuated g/C Ratio		0.27			0.28						0.57	
v/c Ratio		0.37			0.54						0.49	
Control Delay		11.6			16.8						8.2	
Queue Delay		0.0			0.0						0.0	
Total Delay		11.6			16.8						8.2	
LOS		B			B						A	
Approach Delay		11.6			16.8						8.2	
Approach LOS		B			B						A	

Intersection Summary	
Cycle Length: 45	
Actuated Cycle Length: 38.5	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.54	
Intersection Signal Delay: 10.0	Intersection LOS: B
Intersection Capacity Utilization 56.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 8: Davis St & 6th St



Intersection	
Intersection Delay, s/veh	54.5
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	210	260	0	0	241	67	125	143	10	105	0	190
Future Vol, veh/h	210	260	0	0	241	67	125	143	10	105	0	190
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	228	283	0	0	262	73	136	155	11	114	0	207
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	100.6	31.3	29.6	28.9
HCM LOS	F	D	D	D

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	45%	45%	0%	36%
Vol Thru, %	51%	55%	78%	0%
Vol Right, %	4%	0%	22%	64%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	278	470	308	295
LT Vol	125	210	0	105
Through Vol	143	260	241	0
RT Vol	10	0	67	190
Lane Flow Rate	302	511	335	321
Geometry Grp	1	1	1	1
Degree of Util (X)	0.697	1.103	0.737	0.704
Departure Headway (Hd)	8.751	7.77	8.318	8.335
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	417	465	439	436
Service Time	6.751	5.845	6.318	6.335
HCM Lane V/C Ratio	0.724	1.099	0.763	0.736
HCM Control Delay	29.6	100.6	31.3	28.9
HCM Lane LOS	D	F	D	D
HCM 95th-tile Q	5.2	17	5.9	5.3

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	70	218	20	40	304
Future Vol, veh/h	10	70	218	20	40	304
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	76	237	22	43	330

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	664	248	0	0	259	0
Stage 1	248	-	-	-	-	-
Stage 2	416	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	426	791	-	-	1306	-
Stage 1	793	-	-	-	-	-
Stage 2	666	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	409	791	-	-	1306	-
Mov Cap-2 Maneuver	409	-	-	-	-	-
Stage 1	761	-	-	-	-	-
Stage 2	666	-	-	-	-	-

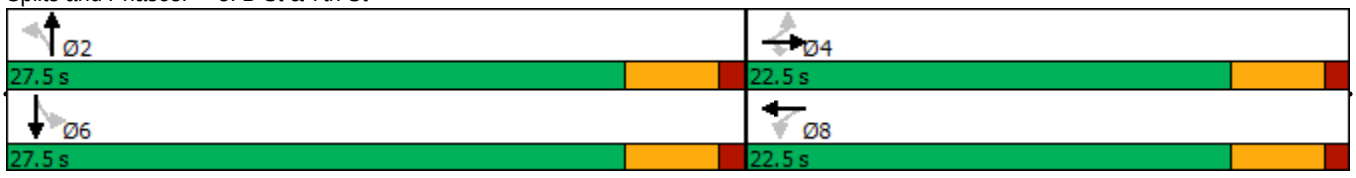
Approach	WB	NB	SB
HCM Control Delay, s	10.8	0	0.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	708	1306	-
HCM Lane V/C Ratio	-	-	0.123	0.033	-
HCM Control Delay (s)	-	-	10.8	7.9	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	322	214	50	247	30	362	330	220	50	1070	242
Future Volume (vph)	54	322	214	50	247	30	362	330	220	50	1070	242
Satd. Flow (prot)	0	1850	1583	1770	1833	0	1770	1751	0	0	3437	0
Flt Permitted		0.908		0.356			0.173				0.903	
Satd. Flow (perm)	0	1691	1583	663	1833	0	322	1751	0	0	3110	0
Satd. Flow (RTOR)			36		14			89			68	
Adj. Flow (vph)	59	350	233	54	268	33	393	359	239	54	1163	263
Lane Group Flow (vph)	0	409	233	54	301	0	393	598	0	0	1480	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	22.5	22.5	22.5	22.5	22.5		27.5	27.5		27.5	27.5	
Total Split (%)	45.0%	45.0%	45.0%	45.0%	45.0%		55.0%	55.0%		55.0%	55.0%	
Maximum Green (s)	18.0	18.0	18.0	18.0	18.0		23.0	23.0		23.0	23.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Total Lost Time (s)		4.5	4.5	4.5	4.5		4.5	4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effct Green (s)		15.5	15.5	15.5	15.5		23.1	23.1			23.1	
Actuated g/C Ratio		0.32	0.32	0.32	0.32		0.48	0.48			0.48	
v/c Ratio		0.74	0.43	0.25	0.50		2.52	0.67			0.96	
Control Delay		23.8	13.1	14.9	15.2		721.5	13.3			30.5	
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0			0.0	
Total Delay		23.8	13.1	14.9	15.2		721.5	13.3			30.5	
LOS		C	B	B	B		F	B			C	
Approach Delay		19.9			15.2			294.2			30.5	
Approach LOS		B			B			F			C	

Intersection Summary	
Cycle Length: 50	
Actuated Cycle Length: 47.7	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.52	
Intersection Signal Delay: 102.3	Intersection LOS: F
Intersection Capacity Utilization 119.3%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 3: B St & 7th St



Intersection	
Intersection Delay, s/veh	12.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	260	0	38	0	0	424	0
Future Vol, veh/h	0	0	0	0	0	260	0	38	0	0	424	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	283	0	41	0	0	461	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	0	10.1	8.5	14.3
HCM LOS	-	B	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	0%	0%
Vol Thru, %	100%	100%	0%	100%
Vol Right, %	0%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	38	0	260	424
LT Vol	0	0	0	0
Through Vol	38	0	0	424
RT Vol	0	0	260	0
Lane Flow Rate	41	0	283	461
Geometry Grp	1	1	1	1
Degree of Util (X)	0.059	0	0.356	0.594
Departure Headway (Hd)	5.139	5.514	4.53	4.637
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	690	0	791	774
Service Time	3.221	3.6	2.58	2.694
HCM Lane V/C Ratio	0.059	0	0.358	0.596
HCM Control Delay	8.5	8.6	10.1	14.3
HCM Lane LOS	A	N	B	B
HCM 95th-tile Q	0.2	0	1.6	4

Intersection	
Int Delay, s/veh	36.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	280	144	38	285	572	0
Future Vol, veh/h	280	144	38	285	572	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	50	75	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	304	157	41	310	622	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1014	622	622	0	-	0
Stage 1	622	-	-	-	-	-
Stage 2	392	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	~ 264	487	959	-	-	0
Stage 1	535	-	-	-	-	0
Stage 2	683	-	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	~ 253	487	959	-	-	-
Mov Cap-2 Maneuver	~ 253	-	-	-	-	-
Stage 1	512	-	-	-	-	-
Stage 2	683	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	113.6	1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	959	-	253	487	-
HCM Lane V/C Ratio	0.043	-	1.203	0.321	-
HCM Control Delay (s)	8.9	-	163.8	15.9	-
HCM Lane LOS	A	-	F	C	-
HCM 95th %tile Q(veh)	0.1	-	14.4	1.4	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	263	0	0	0
Future Vol, veh/h	0	0	263	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	16979
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	286	0	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	286	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	753	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	753	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	0	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	0
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Int Delay, s/veh	5.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	100	30	307	90	80	665
Future Vol, veh/h	100	30	307	90	80	665
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	70	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	109	33	334	98	87	723

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1280	383	0	0	432	0
Stage 1	383	-	-	-	-	-
Stage 2	897	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	183	664	-	-	1128	-
Stage 1	689	-	-	-	-	-
Stage 2	398	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	169	664	-	-	1128	-
Mov Cap-2 Maneuver	169	-	-	-	-	-
Stage 1	636	-	-	-	-	-
Stage 2	398	-	-	-	-	-

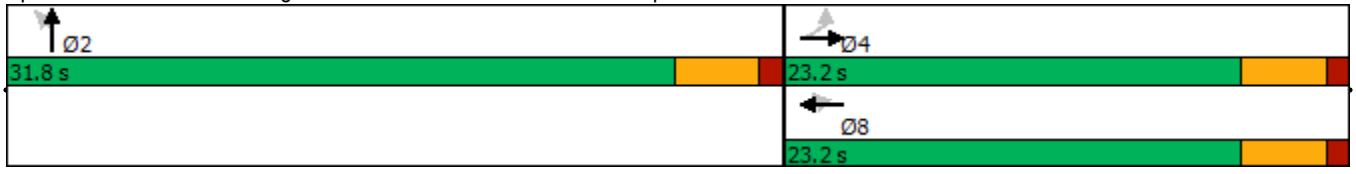
Approach	WB	NB	SB
HCM Control Delay, s	47.3	0	0.9
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	169	664	1128	-
HCM Lane V/C Ratio	-	-	0.643	0.049	0.077	-
HCM Control Delay (s)	-	-	58.3	10.7	8.5	-
HCM Lane LOS	-	-	F	B	A	-
HCM 95th %tile Q(veh)	-	-	3.6	0.2	0.2	-

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	90	175	423	272	70	1015	192
Future Volume (vph)	90	175	423	272	70	1015	192
Satd. Flow (prot)	1770	1863	1863	1583	0	3447	0
Flt Permitted	0.260					0.997	
Satd. Flow (perm)	484	1863	1863	1583	0	3447	0
Satd. Flow (RTOR)						52	
Adj. Flow (vph)	98	190	460	296	76	1103	209
Lane Group Flow (vph)	98	190	460	296	0	1388	0
Turn Type	Perm	NA	NA	Perm	Perm	NA	
Protected Phases		4	8			2	
Permitted Phases	4			8	2		
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	
Total Split (s)	23.2	23.2	23.2	23.2	31.8	31.8	
Total Split (%)	42.2%	42.2%	42.2%	42.2%	57.8%	57.8%	
Maximum Green (s)	18.7	18.7	18.7	18.7	27.3	27.3	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5		4.5	
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	
Act Effct Green (s)	16.7	16.7	16.7	16.7		27.4	
Actuated g/C Ratio	0.31	0.31	0.31	0.31		0.52	
v/c Ratio	0.64	0.32	0.78	0.59		0.77	
Control Delay	39.1	15.4	27.8	20.8		14.3	
Queue Delay	0.0	0.0	0.0	0.0		0.0	
Total Delay	39.1	15.4	27.8	20.8		14.3	
LOS	D	B	C	C		B	
Approach Delay		23.5	25.1			14.3	
Approach LOS		C	C			B	

Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 53.1	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 18.7	Intersection LOS: B
Intersection Capacity Utilization 74.7%	ICU Level of Service D
Analysis Period (min) 15	

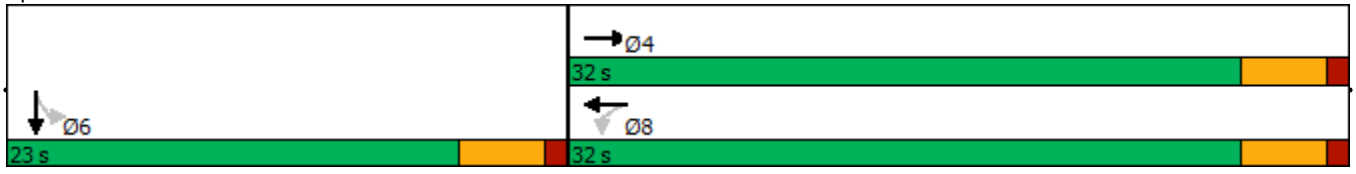
Splits and Phases: 7: Morgan St & 6th St & SR 101 NB On-Ramp



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	137	50	252	192	0	0	0	0	97	550	80
Future Volume (vph)	0	137	50	252	192	0	0	0	0	97	550	80
Satd. Flow (prot)	0	1796	0	0	1811	0	0	0	0	0	3455	0
Flt Permitted					0.715						0.993	
Satd. Flow (perm)	0	1796	0	0	1332	0	0	0	0	0	3455	0
Satd. Flow (RTOR)		47									26	
Adj. Flow (vph)	0	149	54	274	209	0	0	0	0	105	598	87
Lane Group Flow (vph)	0	203	0	0	483	0	0	0	0	0	790	0
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		4			8						6	
Permitted Phases				8						6		
Minimum Initial (s)		5.0		5.0	5.0					5.0	5.0	
Minimum Split (s)		22.5		22.5	22.5					22.5	22.5	
Total Split (s)		32.0		32.0	32.0					23.0	23.0	
Total Split (%)		58.2%		58.2%	58.2%					41.8%	41.8%	
Maximum Green (s)		27.5		27.5	27.5					18.5	18.5	
Yellow Time (s)		3.5		3.5	3.5					3.5	3.5	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Total Lost Time (s)		4.5			4.5						4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	
Recall Mode		None		None	None					Max	Max	
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		11.0		11.0	11.0					11.0	11.0	
Pedestrian Calls (#/hr)		0		0	0					0	0	
Act Effct Green (s)		21.8			21.8						18.8	
Actuated g/C Ratio		0.44			0.44						0.38	
v/c Ratio		0.25			0.83						0.60	
Control Delay		7.1			25.9						15.5	
Queue Delay		0.0			0.0						0.0	
Total Delay		7.1			25.9						15.5	
LOS		A			C						B	
Approach Delay		7.1			25.9						15.5	
Approach LOS		A			C						B	

Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 49.7	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 17.7	Intersection LOS: B
Intersection Capacity Utilization 66.1%	ICU Level of Service C
Analysis Period (min) 15	

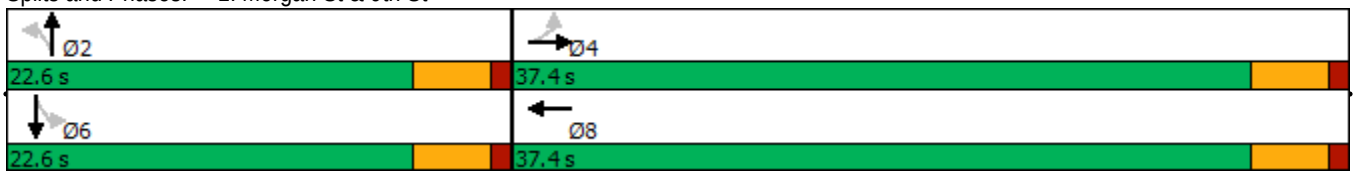
Splits and Phases: 8: Davis St & 6th St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	270	274	0	0	202	40	87	165	10	37	0	160
Future Volume (vph)	270	274	0	0	202	40	87	165	10	37	0	160
Satd. Flow (prot)	0	1818	0	0	1822	0	0	1824	0	0	1643	0
Flt Permitted		0.713						0.832			0.914	
Satd. Flow (perm)	0	1328	0	0	1822	0	0	1542	0	0	1515	0
Satd. Flow (RTOR)					26			3			174	
Adj. Flow (vph)	293	298	0	0	220	43	95	179	11	40	0	174
Lane Group Flow (vph)	0	591	0	0	263	0	0	285	0	0	214	0
Turn Type	Perm	NA			NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4						2			6		
Minimum Initial (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5			22.5		22.5	22.5		22.5	22.5	
Total Split (s)	37.4	37.4			37.4		22.6	22.6		22.6	22.6	
Total Split (%)	62.3%	62.3%			62.3%		37.7%	37.7%		37.7%	37.7%	
Maximum Green (s)	32.9	32.9			32.9		18.1	18.1		18.1	18.1	
Yellow Time (s)	3.5	3.5			3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None			None		Min	Min		Min	Min	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0			11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0		0	0		0	0	
Act Effct Green (s)		26.3			26.3			14.0			14.0	
Actuated g/C Ratio		0.53			0.53			0.28			0.28	
v/c Ratio		0.84			0.27			0.66			0.39	
Control Delay		24.3			6.9			25.2			7.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		24.3			6.9			25.2			7.2	
LOS		C			A			C			A	
Approach Delay		24.3			6.9			25.2			7.2	
Approach LOS		C			A			C			A	

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 49.9	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 18.4	Intersection LOS: B
Intersection Capacity Utilization 77.9%	ICU Level of Service D
Analysis Period (min) 15	

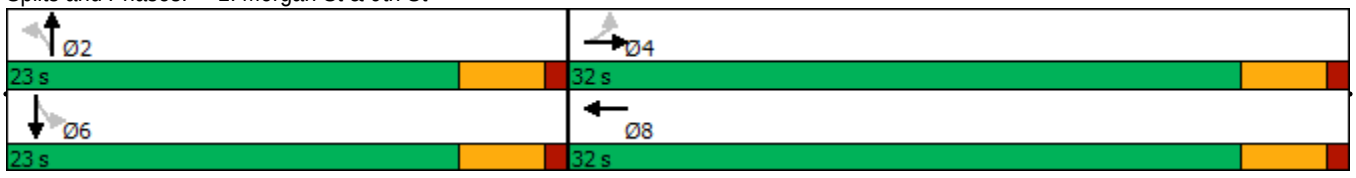
Splits and Phases: 1: Morgan St & 9th St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	210	260	0	0	214	60	112	128	10	105	0	190
Future Volume (vph)	210	260	0	0	214	60	112	128	10	105	0	190
Satd. Flow (prot)	0	1822	0	0	1809	0	0	1813	0	0	1672	0
Flt Permitted		0.716						0.713			0.799	
Satd. Flow (perm)	0	1334	0	0	1809	0	0	1321	0	0	1359	0
Satd. Flow (RTOR)					37			4			179	
Adj. Flow (vph)	228	283	0	0	233	65	122	139	11	114	0	207
Lane Group Flow (vph)	0	511	0	0	298	0	0	272	0	0	321	0
Turn Type	Perm	NA			NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4						2			6		
Minimum Initial (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5			22.5		22.5	22.5		22.5	22.5	
Total Split (s)	32.0	32.0			32.0		23.0	23.0		23.0	23.0	
Total Split (%)	58.2%	58.2%			58.2%		41.8%	41.8%		41.8%	41.8%	
Maximum Green (s)	27.5	27.5			27.5		18.5	18.5		18.5	18.5	
Yellow Time (s)	3.5	3.5			3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None			None		Min	Min		Min	Min	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0			11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0		0	0		0	0	
Act Effct Green (s)		21.9			21.9			14.0			14.0	
Actuated g/C Ratio		0.48			0.48			0.31			0.31	
v/c Ratio		0.79			0.33			0.67			0.59	
Control Delay		22.1			7.9			23.7			11.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		22.1			7.9			23.7			11.9	
LOS		C			A			C			B	
Approach Delay		22.1			7.9			23.7			11.9	
Approach LOS		C			A			C			B	

Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 45.5	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 17.1	Intersection LOS: B
Intersection Capacity Utilization 72.2%	ICU Level of Service C
Analysis Period (min) 15	

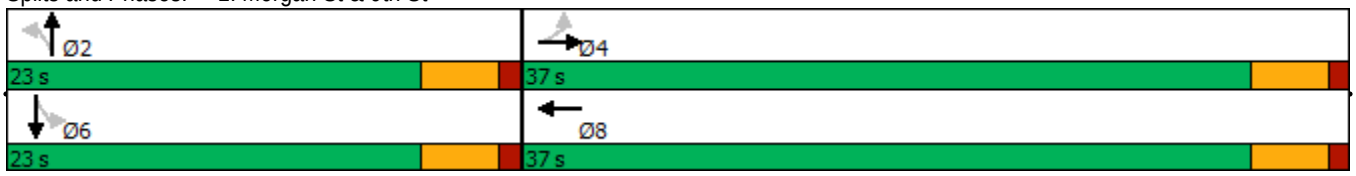
Splits and Phases: 1: Morgan St & 9th St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	270	274	0	0	229	45	95	182	10	37	0	160
Future Volume (vph)	270	274	0	0	229	45	95	182	10	37	0	160
Satd. Flow (prot)	0	1818	0	0	1822	0	0	1824	0	0	1643	0
Flt Permitted		0.691						0.823			0.908	
Satd. Flow (perm)	0	1287	0	0	1822	0	0	1525	0	0	1505	0
Satd. Flow (RTOR)					26			3			174	
Adj. Flow (vph)	293	298	0	0	249	49	103	198	11	40	0	174
Lane Group Flow (vph)	0	591	0	0	298	0	0	312	0	0	214	0
Turn Type	Perm	NA			NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4						2			6		
Minimum Initial (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5			22.5		22.5	22.5		22.5	22.5	
Total Split (s)	37.0	37.0			37.0		23.0	23.0		23.0	23.0	
Total Split (%)	61.7%	61.7%			61.7%		38.3%	38.3%		38.3%	38.3%	
Maximum Green (s)	32.5	32.5			32.5		18.5	18.5		18.5	18.5	
Yellow Time (s)	3.5	3.5			3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None			None		Min	Min		Min	Min	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0			11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0		0	0		0	0	
Act Effct Green (s)		28.1			28.1			14.9			14.9	
Actuated g/C Ratio		0.54			0.54			0.28			0.28	
v/c Ratio		0.86			0.30			0.72			0.39	
Control Delay		26.5			7.4			28.3			7.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		26.5			7.4			28.3			7.1	
LOS		C			A			C			A	
Approach Delay		26.5			7.4			28.3			7.1	
Approach LOS		C			A			C			A	

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 52.4	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 19.9	Intersection LOS: B
Intersection Capacity Utilization 81.8%	ICU Level of Service D
Analysis Period (min) 15	

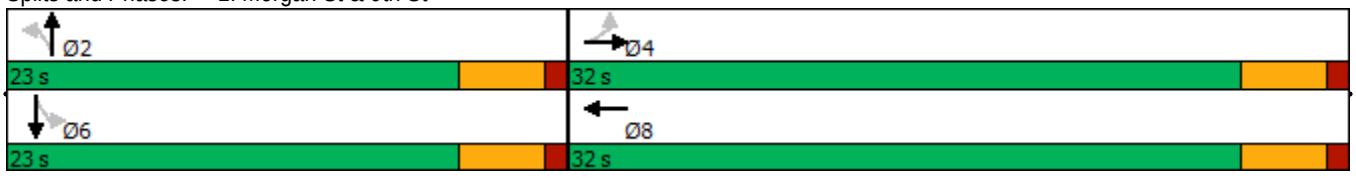
Splits and Phases: 1: Morgan St & 9th St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	210	260	0	0	241	67	125	143	10	105	0	190
Future Volume (vph)	210	260	0	0	241	67	125	143	10	105	0	190
Satd. Flow (prot)	0	1822	0	0	1809	0	0	1813	0	0	1672	0
Flt Permitted		0.671						0.704			0.785	
Satd. Flow (perm)	0	1250	0	0	1809	0	0	1305	0	0	1335	0
Satd. Flow (RTOR)					36			4			179	
Adj. Flow (vph)	228	283	0	0	262	73	136	155	11	114	0	207
Lane Group Flow (vph)	0	511	0	0	335	0	0	302	0	0	321	0
Turn Type	Perm	NA			NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4						2			6		
Minimum Initial (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5			22.5		22.5	22.5		22.5	22.5	
Total Split (s)	32.0	32.0			32.0		23.0	23.0		23.0	23.0	
Total Split (%)	58.2%	58.2%			58.2%		41.8%	41.8%		41.8%	41.8%	
Maximum Green (s)	27.5	27.5			27.5		18.5	18.5		18.5	18.5	
Yellow Time (s)	3.5	3.5			3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None			None		Min	Min		Min	Min	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0			11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0		0	0		0	0	
Act Effct Green (s)		23.4			23.4			15.2			15.2	
Actuated g/C Ratio		0.49			0.49			0.32			0.32	
v/c Ratio		0.84			0.37			0.73			0.59	
Control Delay		26.7			8.6			27.7			12.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		26.7			8.6			27.7			12.0	
LOS		C			A			C			B	
Approach Delay		26.7			8.6			27.7			12.0	
Approach LOS		C			A			C			B	

Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 48	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 19.5	Intersection LOS: B
Intersection Capacity Utilization 75.0%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 1: Morgan St & 9th St



Intersection	
Intersection Delay, s/veh	13.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	180	166	0	0	134	25	77	167	1	17	0	104
Future Vol, veh/h	180	166	0	0	134	25	77	167	1	17	0	104
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	196	180	0	0	146	27	84	182	1	18	0	113
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	15.7	10.8	13.1	9.9
HCM LOS	C	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	31%	52%	0%	14%
Vol Thru, %	68%	48%	84%	0%
Vol Right, %	0%	0%	16%	86%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	245	346	159	121
LT Vol	77	180	0	17
Through Vol	167	166	134	0
RT Vol	1	0	25	104
Lane Flow Rate	266	376	173	132
Geometry Grp	1	1	1	1
Degree of Util (X)	0.426	0.572	0.27	0.2
Departure Headway (Hd)	5.753	5.479	5.624	5.487
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	623	658	636	650
Service Time	3.809	3.529	3.686	3.555
HCM Lane V/C Ratio	0.427	0.571	0.272	0.203
HCM Control Delay	13.1	15.7	10.8	9.9
HCM Lane LOS	B	C	B	A
HCM 95th-tile Q	2.1	3.6	1.1	0.7

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	28	131	5	31	164
Future Vol, veh/h	7	28	131	5	31	164
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	30	142	5	34	178

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	391	145	0	0	147	0
Stage 1	145	-	-	-	-	-
Stage 2	246	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	613	902	-	-	1435	-
Stage 1	882	-	-	-	-	-
Stage 2	795	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	597	902	-	-	1435	-
Mov Cap-2 Maneuver	597	-	-	-	-	-
Stage 1	859	-	-	-	-	-
Stage 2	795	-	-	-	-	-

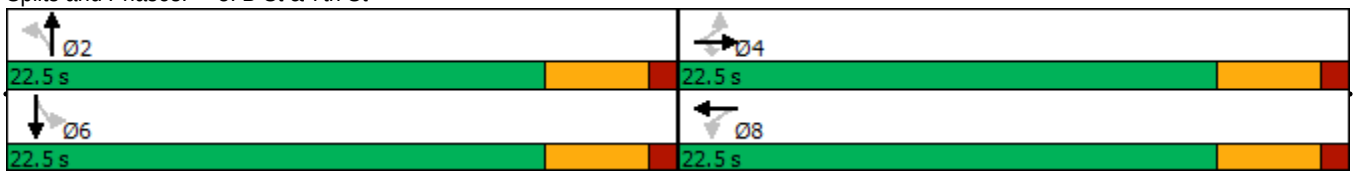
Approach	WB	NB	SB
HCM Control Delay, s	9.6	0	1.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	818	1435	-
HCM Lane V/C Ratio	-	-	0.047	0.023	-
HCM Control Delay (s)	-	-	9.6	7.6	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	224	37	17	106	7	64	149	77	12	190	59
Future Volume (vph)	24	224	37	17	106	7	64	149	77	12	190	59
Satd. Flow (prot)	0	1853	1583	1770	1844	0	1770	1768	0	0	3412	0
Flt Permitted		0.962		0.556			0.578				0.941	
Satd. Flow (perm)	0	1792	1583	1036	1844	0	1077	1768	0	0	3217	0
Satd. Flow (RTOR)			40		8			69			64	
Adj. Flow (vph)	26	243	40	18	115	8	70	162	84	13	207	64
Lane Group Flow (vph)	0	269	40	18	123	0	70	246	0	0	284	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	22.5	22.5	22.5	22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	18.0	18.0	18.0	18.0	18.0		18.0	18.0		18.0	18.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Total Lost Time (s)		4.5	4.5	4.5	4.5		4.5	4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effct Green (s)		11.3	11.3	11.3	11.3		20.7	20.7			20.7	
Actuated g/C Ratio		0.27	0.27	0.27	0.27		0.50	0.50			0.50	
v/c Ratio		0.55	0.09	0.06	0.24		0.13	0.27			0.17	
Control Delay		16.2	4.4	9.7	10.6		7.7	6.0			5.4	
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0			0.0	
Total Delay		16.2	4.4	9.7	10.6		7.7	6.0			5.4	
LOS		B	A	A	B		A	A			A	
Approach Delay		14.7			10.5			6.4			5.4	
Approach LOS		B			B			A			A	

Intersection Summary	
Cycle Length: 45	
Actuated Cycle Length: 41.1	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.55	
Intersection Signal Delay: 9.1	Intersection LOS: A
Intersection Capacity Utilization 51.1%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: B St & 7th St



Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	128	0	5	0	0	170	0
Future Vol, veh/h	0	0	0	0	0	128	0	5	0	0	170	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	139	0	5	0	0	185	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	0	7.4	7.4	8.4
HCM LOS	-	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	0%	0%
Vol Thru, %	100%	100%	0%	100%
Vol Right, %	0%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	5	0	128	170
LT Vol	0	0	0	0
Through Vol	5	0	0	170
RT Vol	0	0	128	0
Lane Flow Rate	5	0	139	185
Geometry Grp	1	1	1	1
Degree of Util (X)	0.007	0	0.146	0.215
Departure Headway (Hd)	4.324	4.5	3.765	4.183
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	816	0	959	854
Service Time	2.414	2.504	1.765	2.228
HCM Lane V/C Ratio	0.006	0	0.145	0.217
HCM Control Delay	7.4	7.5	7.4	8.4
HCM Lane LOS	A	N	A	A
HCM 95th-tile Q	0	0	0.5	0.8

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	131	39	5	160	102	0
Future Vol, veh/h	131	39	5	160	102	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	50	75	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	142	42	5	174	111	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	295	111	111	0	-	0
Stage 1	111	-	-	-	-	-
Stage 2	184	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	696	942	1479	-	-	0
Stage 1	914	-	-	-	-	0
Stage 2	848	-	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	694	942	1479	-	-	-
Mov Cap-2 Maneuver	694	-	-	-	-	-
Stage 1	911	-	-	-	-	-
Stage 2	848	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.9	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	1479	-	694	942	-
HCM Lane V/C Ratio	0.004	-	0.205	0.045	-
HCM Control Delay (s)	7.4	-	11.5	9	-
HCM Lane LOS	A	-	B	A	-
HCM 95th %tile Q(veh)	0	-	0.8	0.1	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	251	0	0	0
Future Vol, veh/h	0	0	251	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	16979
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	273	0	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	273	0	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	766	-	0
Stage 1	0	-	-	0
Stage 2	0	-	-	0
Platoon blocked, %			-	
Mov Cap-1 Maneuver	-	766	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	0	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	WBLn1
Capacity (veh/h)	-	-
HCM Lane V/C Ratio	-	-
HCM Control Delay (s)	-	0
HCM Lane LOS	-	A
HCM 95th %tile Q(veh)	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	8	171	31	8	144
Future Vol, veh/h	15	8	171	31	8	144
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	70	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	9	186	34	9	157

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	378	203	0	0	220	0
Stage 1	203	-	-	-	-	-
Stage 2	175	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	624	838	-	-	1349	-
Stage 1	831	-	-	-	-	-
Stage 2	855	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	620	838	-	-	1349	-
Mov Cap-2 Maneuver	620	-	-	-	-	-
Stage 1	825	-	-	-	-	-
Stage 2	855	-	-	-	-	-

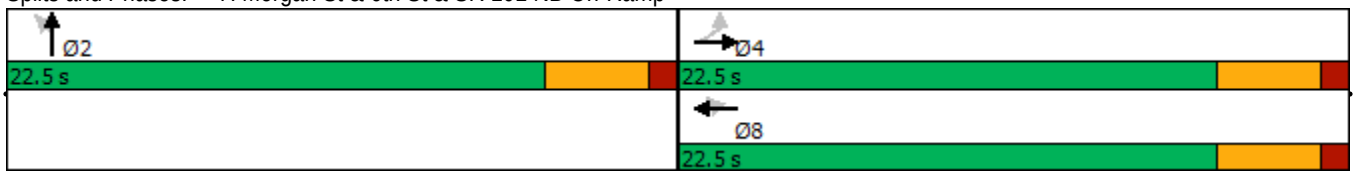
Approach	WB	NB	SB
HCM Control Delay, s	10.4	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	620	838	1349	-
HCM Lane V/C Ratio	-	-	0.026	0.01	0.006	-
HCM Control Delay (s)	-	-	11	9.3	7.7	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	0	-

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	57	117	105	55	19	667	87
Future Volume (vph)	57	117	105	55	19	667	87
Satd. Flow (prot)	1770	1863	1863	1583	0	3476	0
Flt Permitted	0.684					0.999	
Satd. Flow (perm)	1274	1863	1863	1583	0	3476	0
Satd. Flow (RTOR)						36	
Adj. Flow (vph)	62	127	114	60	21	725	95
Lane Group Flow (vph)	62	127	114	60	0	841	0
Turn Type	Perm	NA	NA	Perm	Perm	NA	
Protected Phases		4	8			2	
Permitted Phases	4			8	2		
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	
Total Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	
Maximum Green (s)	18.0	18.0	18.0	18.0	18.0	18.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5		4.5	
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	
Act Effct Green (s)	7.7	7.7	7.7	7.7		21.7	
Actuated g/C Ratio	0.22	0.22	0.22	0.22		0.61	
v/c Ratio	0.23	0.32	0.28	0.18		0.39	
Control Delay	13.0	13.4	13.0	12.0		5.6	
Queue Delay	0.0	0.0	0.0	0.0		0.0	
Total Delay	13.0	13.4	13.0	12.0		5.6	
LOS	B	B	B	B		A	
Approach Delay		13.3	12.7			5.6	
Approach LOS		B	B			A	

Intersection Summary	
Cycle Length: 45	
Actuated Cycle Length: 35.7	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.39	
Intersection Signal Delay: 7.9	Intersection LOS: A
Intersection Capacity Utilization 41.3%	ICU Level of Service A
Analysis Period (min) 15	

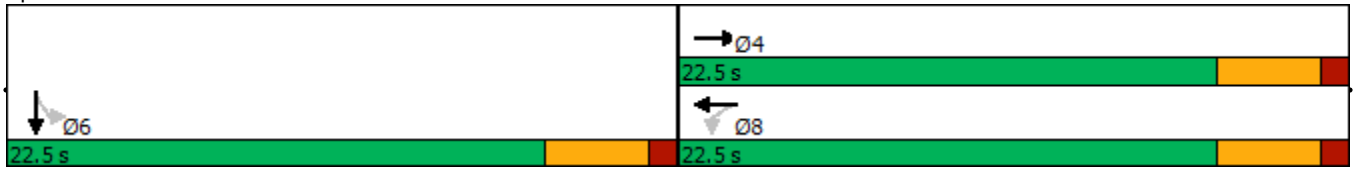
Splits and Phases: 7: Morgan St & 6th St & SR 101 NB On-Ramp



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	86	12	47	75	0	0	0	0	95	423	35
Future Volume (vph)	0	86	12	47	75	0	0	0	0	95	423	35
Satd. Flow (prot)	0	1831	0	0	1827	0	0	0	0	0	3479	0
Flt Permitted					0.829						0.992	
Satd. Flow (perm)	0	1831	0	0	1544	0	0	0	0	0	3479	0
Satd. Flow (RTOR)		13									18	
Adj. Flow (vph)	0	93	13	51	82	0	0	0	0	103	460	38
Lane Group Flow (vph)	0	106	0	0	133	0	0	0	0	0	601	0
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		4			8						6	
Permitted Phases				8						6		
Minimum Initial (s)		5.0		5.0	5.0					5.0	5.0	
Minimum Split (s)		22.5		22.5	22.5					22.5	22.5	
Total Split (s)		22.5		22.5	22.5					22.5	22.5	
Total Split (%)		50.0%		50.0%	50.0%					50.0%	50.0%	
Maximum Green (s)		18.0		18.0	18.0					18.0	18.0	
Yellow Time (s)		3.5		3.5	3.5					3.5	3.5	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Total Lost Time (s)		4.5			4.5						4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	
Recall Mode		None		None	None					Max	Max	
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		11.0		11.0	11.0					11.0	11.0	
Pedestrian Calls (#/hr)		0		0	0					0	0	
Act Effct Green (s)		8.0			8.2						24.8	
Actuated g/C Ratio		0.22			0.23						0.69	
v/c Ratio		0.25			0.38						0.25	
Control Delay		11.2			14.4						4.7	
Queue Delay		0.0			0.0						0.0	
Total Delay		11.2			14.4						4.7	
LOS		B			B						A	
Approach Delay		11.2			14.4						4.7	
Approach LOS		B			B						A	

Intersection Summary	
Cycle Length: 45	
Actuated Cycle Length: 35.7	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.38	
Intersection Signal Delay: 7.0	Intersection LOS: A
Intersection Capacity Utilization 36.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 8: Davis St & 6th St



Intersection	
Intersection Delay, s/veh	12.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	139	161	0	0	141	40	99	122	7	63	0	126
Future Vol, veh/h	139	161	0	0	141	40	99	122	7	63	0	126
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	151	175	0	0	153	43	108	133	8	68	0	137
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	14.7	11.4	12.9	11.3
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	43%	46%	0%	33%
Vol Thru, %	54%	54%	78%	0%
Vol Right, %	3%	0%	22%	67%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	228	300	181	189
LT Vol	99	139	0	63
Through Vol	122	161	141	0
RT Vol	7	0	40	126
Lane Flow Rate	248	326	197	205
Geometry Grp	1	1	1	1
Degree of Util (X)	0.404	0.515	0.312	0.318
Departure Headway (Hd)	5.87	5.686	5.704	5.572
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	610	629	626	641
Service Time	3.943	3.752	3.781	3.649
HCM Lane V/C Ratio	0.407	0.518	0.315	0.32
HCM Control Delay	12.9	14.7	11.4	11.3
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.9	3	1.3	1.4

Intersection	
Int Delay, s/veh	1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	44	144	9	23	211
Future Vol, veh/h	7	44	144	9	23	211
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	48	157	10	25	229

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	441	162	0	0	167	0
Stage 1	162	-	-	-	-	-
Stage 2	279	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	574	883	-	-	1411	-
Stage 1	867	-	-	-	-	-
Stage 2	768	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	563	883	-	-	1411	-
Mov Cap-2 Maneuver	563	-	-	-	-	-
Stage 1	850	-	-	-	-	-
Stage 2	768	-	-	-	-	-

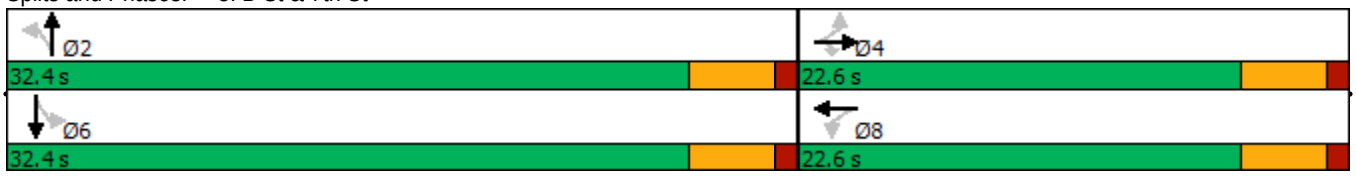
Approach	WB	NB	SB
HCM Control Delay, s	9.7	0	0.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	819	1411	-
HCM Lane V/C Ratio	-	-	0.068	0.018	-
HCM Control Delay (s)	-	-	9.7	7.6	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	180	101	27	141	12	174	138	118	20	444	103
Future Volume (vph)	18	180	101	27	141	12	174	138	118	20	444	103
Satd. Flow (prot)	0	1853	1583	1770	1840	0	1770	1734	0	0	3437	0
Flt Permitted		0.960		0.576			0.418				0.941	
Satd. Flow (perm)	0	1788	1583	1073	1840	0	779	1734	0	0	3240	0
Satd. Flow (RTOR)			110		8			113			70	
Adj. Flow (vph)	20	196	110	29	153	13	189	150	128	22	483	112
Lane Group Flow (vph)	0	216	110	29	166	0	189	278	0	0	617	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	22.6	22.6	22.6	22.6	22.6		32.4	32.4		32.4	32.4	
Total Split (%)	41.1%	41.1%	41.1%	41.1%	41.1%		58.9%	58.9%		58.9%	58.9%	
Maximum Green (s)	18.1	18.1	18.1	18.1	18.1		27.9	27.9		27.9	27.9	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Total Lost Time (s)		4.5	4.5	4.5	4.5		4.5	4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effct Green (s)		11.3	11.3	11.3	11.3		30.2	30.2			30.2	
Actuated g/C Ratio		0.22	0.22	0.22	0.22		0.60	0.60			0.60	
v/c Ratio		0.54	0.25	0.12	0.40		0.41	0.26			0.31	
Control Delay		21.7	5.3	15.2	17.7		10.0	4.2			5.5	
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0			0.0	
Total Delay		21.7	5.3	15.2	17.7		10.0	4.2			5.5	
LOS		C	A	B	B		B	A			A	
Approach Delay		16.2			17.3			6.6			5.5	
Approach LOS		B			B			A			A	

Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 50.5	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.54	
Intersection Signal Delay: 9.4	Intersection LOS: A
Intersection Capacity Utilization 64.2%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 3: B St & 7th St



Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	139	0	11	0	0	218	0
Future Vol, veh/h	0	0	0	0	0	139	0	11	0	0	218	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	151	0	12	0	0	237	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	0	7.7	7.6	8.9
HCM LOS	-	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	0%	0%
Vol Thru, %	100%	100%	0%	100%
Vol Right, %	0%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	11	0	139	218
LT Vol	0	0	0	0
Through Vol	11	0	0	218
RT Vol	0	0	139	0
Lane Flow Rate	12	0	151	237
Geometry Grp	1	1	1	1
Degree of Util (X)	0.015	0	0.164	0.277
Departure Headway (Hd)	4.495	4.656	3.899	4.208
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	799	0	926	846
Service Time	2.508	2.662	1.899	2.271
HCM Lane V/C Ratio	0.015	0	0.163	0.28
HCM Control Delay	7.6	7.7	7.7	8.9
HCM Lane LOS	A	N	A	A
HCM 95th-tile Q	0	0	0.6	1.1

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	154	64	11	133	275	0
Future Vol, veh/h	154	64	11	133	275	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	50	75	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	167	70	12	145	299	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	468	299	299	0	-	0
Stage 1	299	-	-	-	-	-
Stage 2	169	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	553	741	1262	-	-	0
Stage 1	752	-	-	-	-	0
Stage 2	861	-	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	547	741	1262	-	-	-
Mov Cap-2 Maneuver	547	-	-	-	-	-
Stage 1	744	-	-	-	-	-
Stage 2	861	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.3	0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	1262	-	547	741	-
HCM Lane V/C Ratio	0.009	-	0.306	0.094	-
HCM Control Delay (s)	7.9	-	14.5	10.4	-
HCM Lane LOS	A	-	B	B	-
HCM 95th %tile Q(veh)	0	-	1.3	0.3	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	225	0	0	0
Future Vol, veh/h	0	0	225	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	16979
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	245	0	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	245	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	794	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	794	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	0	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	0
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Int Delay, s/veh	2.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	64	18	142	57	50	306
Future Vol, veh/h	64	18	142	57	50	306
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	70	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	70	20	154	62	54	333

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	626	185	0	0	216	0
Stage 1	185	-	-	-	-	-
Stage 2	441	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	448	857	-	-	1354	-
Stage 1	847	-	-	-	-	-
Stage 2	648	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	430	857	-	-	1354	-
Mov Cap-2 Maneuver	430	-	-	-	-	-
Stage 1	813	-	-	-	-	-
Stage 2	648	-	-	-	-	-

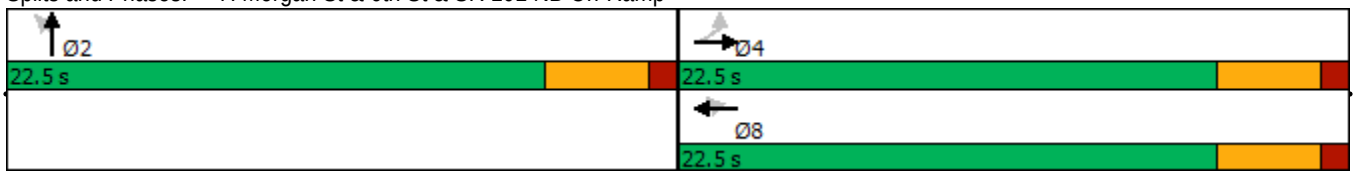
Approach	WB	NB	SB
HCM Control Delay, s	13.7	0	1.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	430	857	1354	-
HCM Lane V/C Ratio	-	-	0.162	0.023	0.04	-
HCM Control Delay (s)	-	-	15	9.3	7.8	-
HCM Lane LOS	-	-	C	A	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0.1	0.1	-

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	48	92	211	161	42	699	104
Future Volume (vph)	48	92	211	161	42	699	104
Satd. Flow (prot)	1770	1863	1863	1583	0	3469	0
Flt Permitted	0.616					0.998	
Satd. Flow (perm)	1147	1863	1863	1583	0	3469	0
Satd. Flow (RTOR)						41	
Adj. Flow (vph)	52	100	229	175	46	760	113
Lane Group Flow (vph)	52	100	229	175	0	919	0
Turn Type	Perm	NA	NA	Perm	Perm	NA	
Protected Phases		4	8			2	
Permitted Phases	4			8	2		
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	
Total Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	
Maximum Green (s)	18.0	18.0	18.0	18.0	18.0	18.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5		4.5	
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	
Act Effct Green (s)	10.5	10.5	10.5	10.5		20.7	
Actuated g/C Ratio	0.26	0.26	0.26	0.26		0.51	
v/c Ratio	0.17	0.21	0.47	0.42		0.51	
Control Delay	11.2	11.0	14.8	14.4		8.2	
Queue Delay	0.0	0.0	0.0	0.0		0.0	
Total Delay	11.2	11.0	14.8	14.4		8.2	
LOS	B	B	B	B		A	
Approach Delay		11.1	14.6			8.2	
Approach LOS		B	B			A	

Intersection Summary	
Cycle Length: 45	
Actuated Cycle Length: 40.4	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.51	
Intersection Signal Delay: 10.3	Intersection LOS: B
Intersection Capacity Utilization 50.4%	ICU Level of Service A
Analysis Period (min) 15	

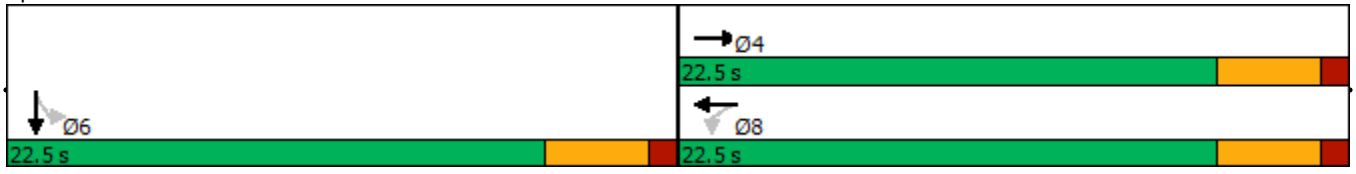
Splits and Phases: 7: Morgan St & 6th St & SR 101 NB On-Ramp



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	85	36	159	112	0	0	0	0	52	353	49
Future Volume (vph)	0	85	36	159	112	0	0	0	0	52	353	49
Satd. Flow (prot)	0	1788	0	0	1811	0	0	0	0	0	3462	0
Flt Permitted					0.746						0.994	
Satd. Flow (perm)	0	1788	0	0	1390	0	0	0	0	0	3462	0
Satd. Flow (RTOR)		39									34	
Adj. Flow (vph)	0	92	39	173	122	0	0	0	0	57	384	53
Lane Group Flow (vph)	0	131	0	0	295	0	0	0	0	0	494	0
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		4			8						6	
Permitted Phases				8						6		
Minimum Initial (s)		5.0		5.0	5.0					5.0	5.0	
Minimum Split (s)		22.5		22.5	22.5					22.5	22.5	
Total Split (s)		22.5		22.5	22.5					22.5	22.5	
Total Split (%)		50.0%		50.0%	50.0%					50.0%	50.0%	
Maximum Green (s)		18.0		18.0	18.0					18.0	18.0	
Yellow Time (s)		3.5		3.5	3.5					3.5	3.5	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Total Lost Time (s)		4.5			4.5						4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	
Recall Mode		None		None	None					Max	Max	
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		11.0		11.0	11.0					11.0	11.0	
Pedestrian Calls (#/hr)		0		0	0					0	0	
Act Effct Green (s)		13.5			13.5						20.2	
Actuated g/C Ratio		0.32			0.32						0.47	
v/c Ratio		0.22			0.67						0.30	
Control Delay		7.9			20.2						7.9	
Queue Delay		0.0			0.0						0.0	
Total Delay		7.9			20.2						7.9	
LOS		A			C						A	
Approach Delay		7.9			20.2						7.9	
Approach LOS		A			C						A	

Intersection Summary	
Cycle Length: 45	
Actuated Cycle Length: 42.7	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay: 11.8	Intersection LOS: B
Intersection Capacity Utilization 45.4%	ICU Level of Service A
Analysis Period (min) 15	

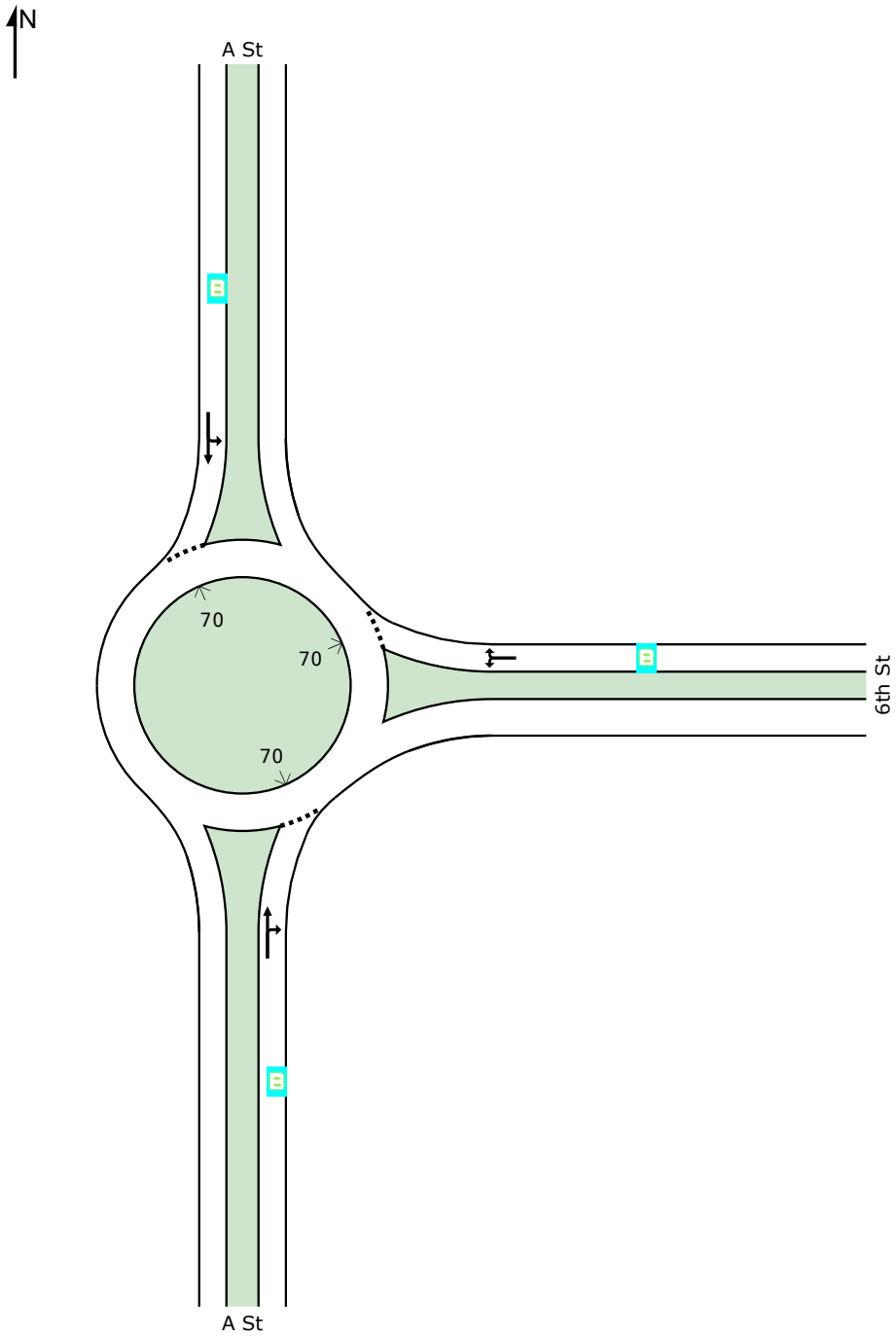
Splits and Phases: 8: Davis St & 6th St



LEVEL OF SERVICE

Site: A St & 7th St-2040wp Partial Closure AM

2040 Without-Project AM Peak Hour
Roundabout



	South	East	North	Intersection
LOS	B	B	B	B

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).

DELAY (AVERAGE)

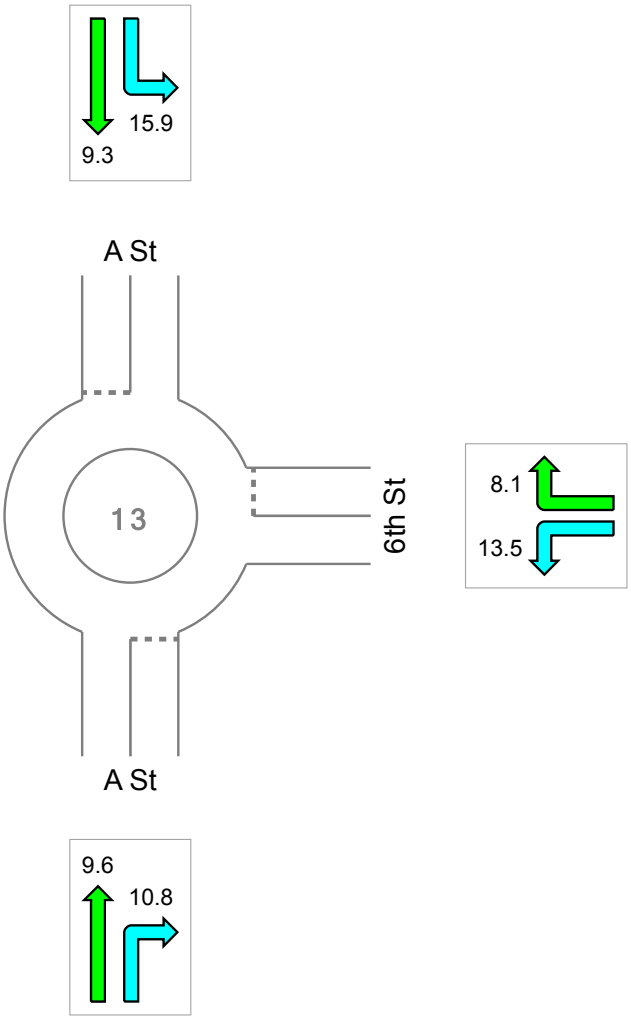
Average control delay per vehicle, or average pedestrian delay (seconds)

Site: A St & 7th St-2040wp Partial Closure AM

2040 Without-Project AM Peak Hour
Roundabout

All Movement Classes

	South	East	North	Intersection
Delay (Average)	10.7	10.8	14.1	11.7
LOS	B	B	B	B



Colour code based on Level of Service

LOS A | LOS B | LOS C | LOS D | LOS E | LOS F | Continuous

Level of Service Method: Delay & v/c (HCM 2010)
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Roundabout Level of Service Method: Same as Signalised Intersections
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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MOVEMENT SUMMARY

Site: A St & 7th St-2040wp Partial Closure AM

2040 Without-Project AM Peak Hour
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: A St											
8	T1	25	2.0	0.458	9.6	LOS A	3.4	86.0	0.66	1.41	22.8
18	R2	357	2.0	0.458	10.8	LOS B	3.4	86.0	0.66	1.41	22.8
Approach		382	2.0	0.458	10.7	LOS B	3.4	86.0	0.66	0.71	22.8
East: 6th St											
1	L2	240	2.0	0.364	13.5	LOS B	3.0	77.2	0.19	1.18	23.9
16	R2	253	2.0	0.364	8.1	LOS A	3.0	77.2	0.19	1.18	23.9
Approach		493	2.0	0.364	10.8	LOS B	3.0	77.2	0.19	0.59	23.9
North: A St											
7	L2	253	2.0	0.404	15.9	LOS B	2.7	68.6	0.59	1.46	21.4
4	T1	97	2.0	0.404	9.3	LOS A	2.7	68.6	0.59	1.46	21.4
Approach		349	2.0	0.404	14.1	LOS B	2.7	68.6	0.59	0.73	21.4
All Vehicles		1224	2.0	0.458	11.7	LOS B	3.4	86.0	0.45	0.67	22.8

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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SIDRA INTERSECTION 6

INTERSECTION SUMMARY

Site: A St & 7th St-2040wp Partial Closure AM

2040 Without-Project AM Peak Hour
Roundabout

Intersection Performance - Hourly Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	1224	veh/h	1469	pers/h
Percent Heavy Vehicles (Demand)	2.0	%		
Degree of Saturation	0.458			
Practical Spare Capacity	85.6	%		
Effective Intersection Capacity	2674	veh/h		
Control Delay (Total)	3.97	veh-h/h	4.77	pers-h/h
Control Delay (Average)	11.7	sec	11.7	sec
Control Delay (Worst Lane)	14.1	sec		
Control Delay (Worst Movement)	15.9	sec	15.9	sec
Geometric Delay (Average)	10.0	sec		
Stop-Line Delay (Average)	1.7	sec		
Idling Time (Average)	0.1	sec		
Intersection Level of Service (LOS)	LOS B			
95% Back of Queue - Vehicles (Worst Lane)	3.4	veh		
95% Back of Queue - Distance (Worst Lane)	86.0	ft		
Queue Storage Ratio (Worst Lane)	0.38			
Total Effective Stops	817	veh/h	980	pers/h
Effective Stop Rate	0.67	per veh	0.67	per pers
Proportion Queued	0.45		0.45	
Performance Index	28.7		28.7	
Travel Distance (Total)	221.8	veh-mi/h	266.2	pers-mi/h
Travel Distance (Average)	957	ft	957	ft
Travel Time (Total)	9.7	veh-h/h	11.7	pers-h/h
Travel Time (Average)	28.6	sec	28.6	sec
Travel Speed	22.8	mph	22.8	mph
Cost (Total)	169.40	$/h	169.40	$/h
Fuel Consumption (Total)	6.9	gal/h		
Carbon Dioxide (Total)	61.9	kg/h		
Hydrocarbons (Total)	0.026	kg/h		
Carbon Monoxide (Total)	0.190	kg/h		
NOx (Total)	0.144	kg/h		

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Signalised Intersections.
Intersection LOS value for Vehicles is based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	587,621	veh/y	705,145	pers/y
Delay	1,908	veh-h/y	2,289	pers-h/y
Effective Stops	392,111	veh/y	470,533	pers/y
Travel Distance	106,482	veh-mi/y	127,778	pers-mi/y
Travel Time	4,666	veh-h/y	5,600	pers-h/y
Cost	81,311	$/y	81,311	$/y
Fuel Consumption	3,332	gal/y		
Carbon Dioxide	29,714	kg/y		
Hydrocarbons	12	kg/y		
Carbon Monoxide	91	kg/y		
NOx	69	kg/y		

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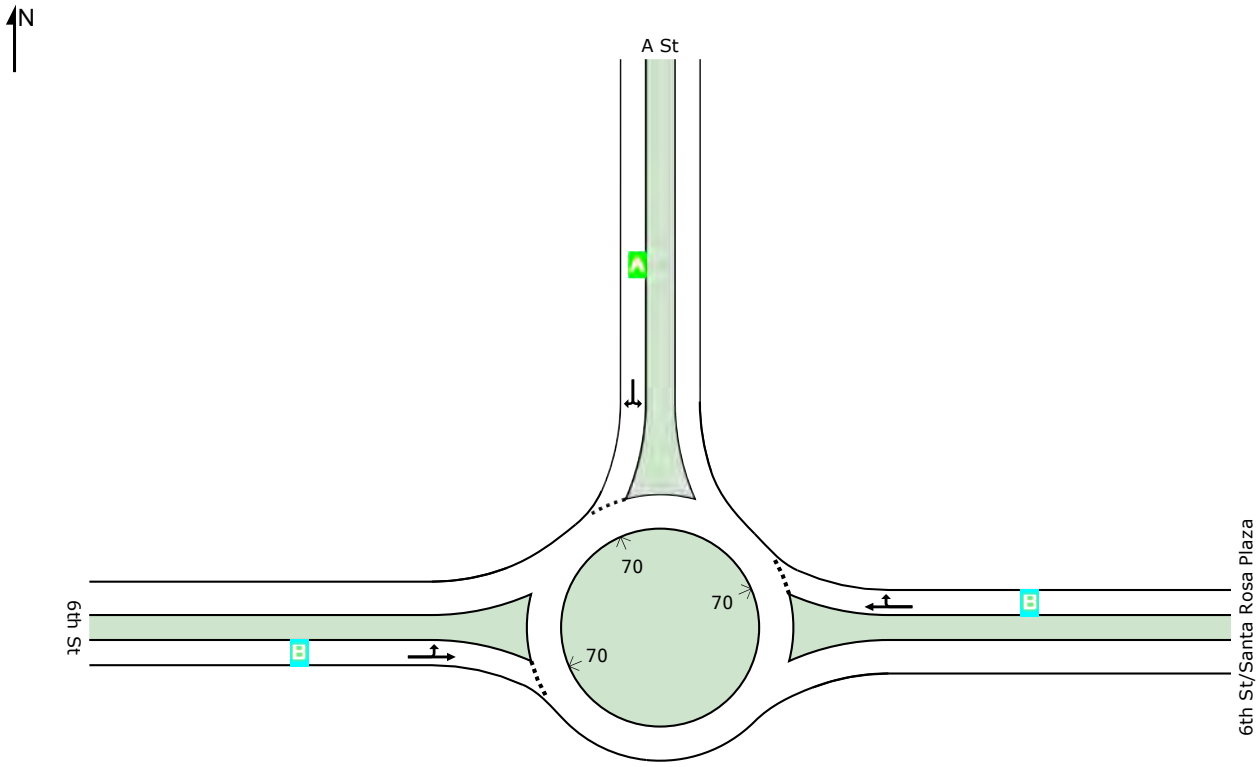
LEVEL OF SERVICE

Site: A St & 6th St/Santa Rosa Plaza-2040wp Partial Closure AM

2040 Without-Project AM Peak Hour
Roundabout



	East	North	West	Intersection
LOS	B	A	B	B

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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SIDRA INTERSECTION 6

DELAY (AVERAGE)

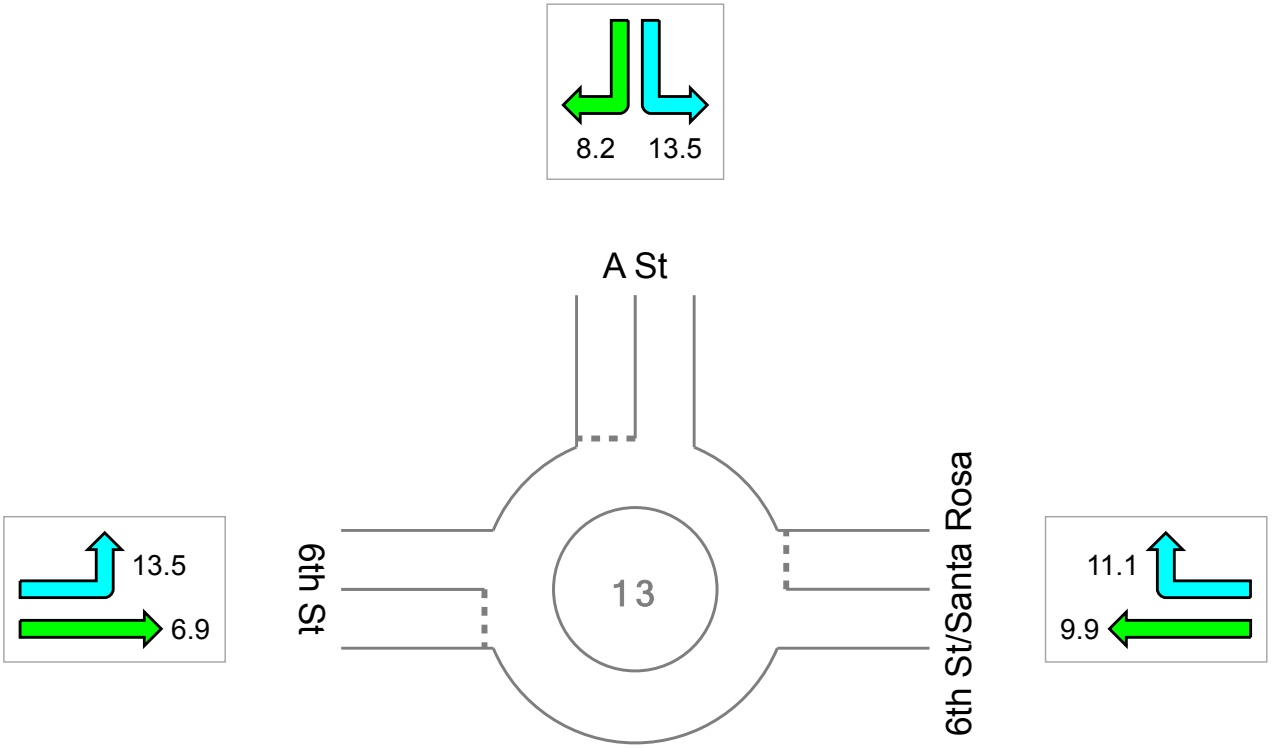
Average control delay per vehicle, or average pedestrian delay (seconds)

Site: A St & 6th St/Santa Rosa Plaza-2040wp Partial Closure AM

2040 Without-Project AM Peak Hour
Roundabout

All Movement Classes

	East	North	West	Intersection
Delay (Average)	10.3	8.5	12.7	10.8
LOS	B	A	B	B



Colour code based on Level of Service

LOS A | LOS B | LOS C | LOS D | LOS E | LOS F | Continuous

Level of Service Method: Delay & v/c (HCM 2010)
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Roundabout Level of Service Method: Same as Signalised Intersections
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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MOVEMENT SUMMARY

Site: A St & 6th St/Santa Rosa Plaza-2040wp Partial Closure AM

2040 Without-Project AM Peak Hour
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
East: 6th St/Santa Rosa Plaza											
6	T1	32	2.0	0.072	9.9	LOS A	0.4	9.2	0.55	1.29	24.2
16	R2	21	2.0	0.072	11.1	LOS B	0.4	9.2	0.55	1.29	24.2
Approach		53	2.0	0.072	10.3	LOS B	0.4	9.2	0.55	0.64	24.2
North: A St											
7	L2	21	2.0	0.279	13.5	LOS B	2.0	51.2	0.20	1.06	24.9
14	R2	338	2.0	0.279	8.2	LOS A	2.0	51.2	0.20	1.06	24.9
Approach		359	2.0	0.279	8.5	LOS A	2.0	51.2	0.20	0.53	24.9
West: 6th St											
5	L2	391	2.0	0.323	13.5	LOS B	2.3	57.3	0.15	1.30	22.4
2	T1	53	2.0	0.323	6.9	LOS A	2.3	57.3	0.15	1.30	22.4
Approach		443	2.0	0.323	12.7	LOS B	2.3	57.3	0.15	0.65	22.4
All Vehicles		855	2.0	0.323	10.8	LOS B	2.3	57.3	0.19	0.60	23.4

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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SIDRA INTERSECTION 6

INTERSECTION SUMMARY

Site: A St & 6th St/Santa Rosa Plaza-2040wp Partial Closure AM

2040 Without-Project AM Peak Hour
Roundabout

Intersection Performance - Hourly Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	855	veh/h	1026	pers/h
Percent Heavy Vehicles (Demand)	2.0	%		
Degree of Saturation	0.323			
Practical Spare Capacity	163.1	%		
Effective Intersection Capacity	2646	veh/h		
Control Delay (Total)	2.56	veh-h/h	3.07	pers-h/h
Control Delay (Average)	10.8	sec	10.8	sec
Control Delay (Worst Lane)	12.7	sec		
Control Delay (Worst Movement)	13.5	sec	13.5	sec
Geometric Delay (Average)	10.4	sec		
Stop-Line Delay (Average)	0.4	sec		
Idling Time (Average)	0.0	sec		
Intersection Level of Service (LOS)	LOS B			
95% Back of Queue - Vehicles (Worst Lane)	2.3	veh		
95% Back of Queue - Distance (Worst Lane)	57.3	ft		
Queue Storage Ratio (Worst Lane)	0.25			
Total Effective Stops	511	veh/h	613	pers/h
Effective Stop Rate	0.60	per veh	0.60	per pers
Proportion Queued	0.19		0.19	
Performance Index	16.7		16.7	
Travel Distance (Total)	152.9	veh-mi/h	183.4	pers-mi/h
Travel Distance (Average)	944	ft	944	ft
Travel Time (Total)	6.5	veh-h/h	7.8	pers-h/h
Travel Time (Average)	27.5	sec	27.5	sec
Travel Speed	23.4	mph	23.4	mph
Cost (Total)	114.35	$/h	114.35	$/h
Fuel Consumption (Total)	4.7	gal/h		
Carbon Dioxide (Total)	42.3	kg/h		
Hydrocarbons (Total)	0.017	kg/h		
Carbon Monoxide (Total)	0.129	kg/h		
NOx (Total)	0.100	kg/h		

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Signalised Intersections.
Intersection LOS value for Vehicles is based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	410,274	veh/y	492,328	pers/y
Delay	1,228	veh-h/y	1,474	pers-h/y
Effective Stops	245,345	veh/y	294,414	pers/y
Travel Distance	73,375	veh-mi/y	88,050	pers-mi/y
Travel Time	3,130	veh-h/y	3,755	pers-h/y
Cost	54,888	$/y	54,888	$/y
Fuel Consumption	2,277	gal/y		
Carbon Dioxide	20,304	kg/y		
Hydrocarbons	8	kg/y		
Carbon Monoxide	62	kg/y		
NOx	48	kg/y		

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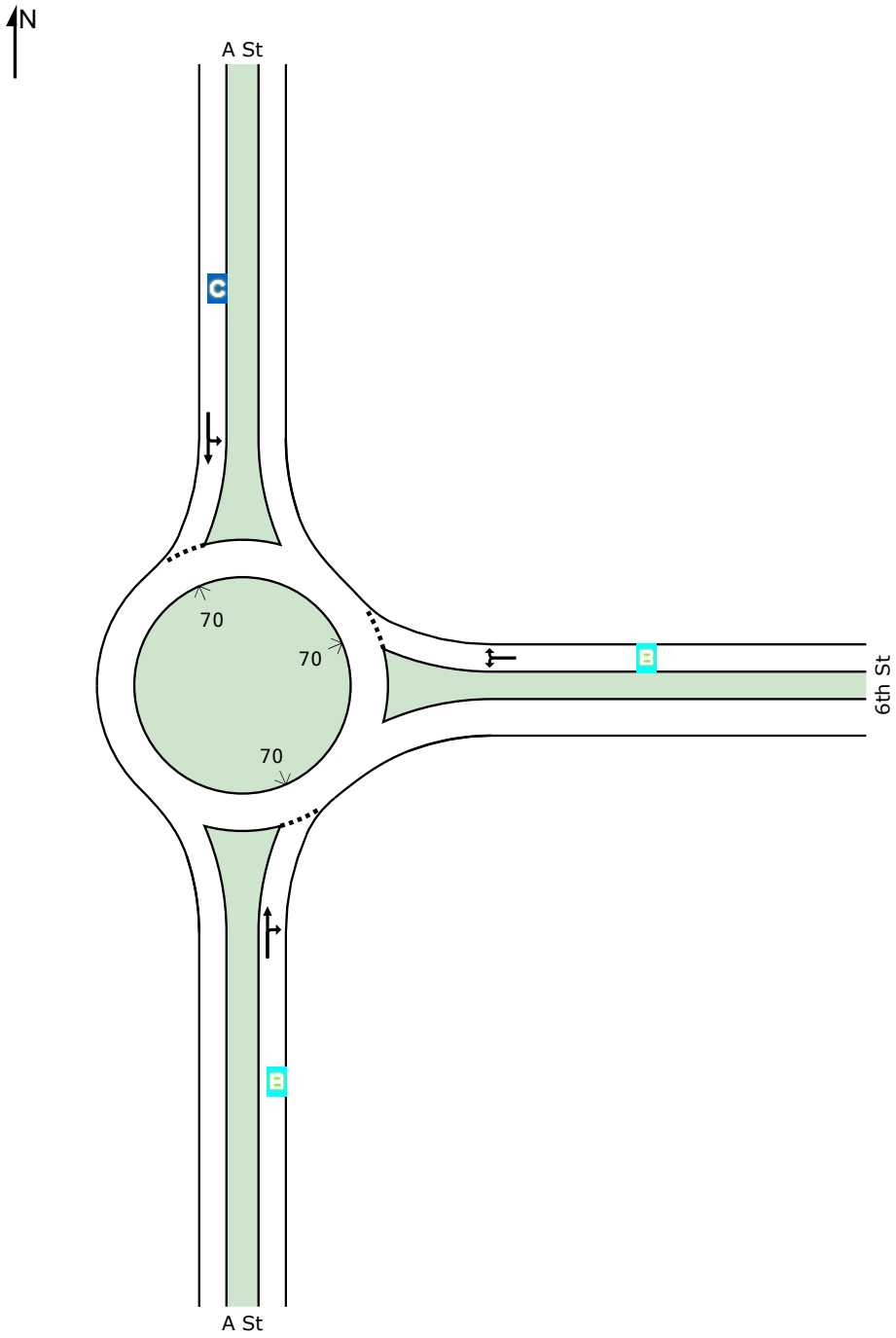
LEVEL OF SERVICE

Site: A St & 7th St-2040wp Partial Closure PM

2040 Without-Project AM Peak Hour
Roundabout



	South	East	North	Intersection
LOS	B	B	C	B

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).

DELAY (AVERAGE)

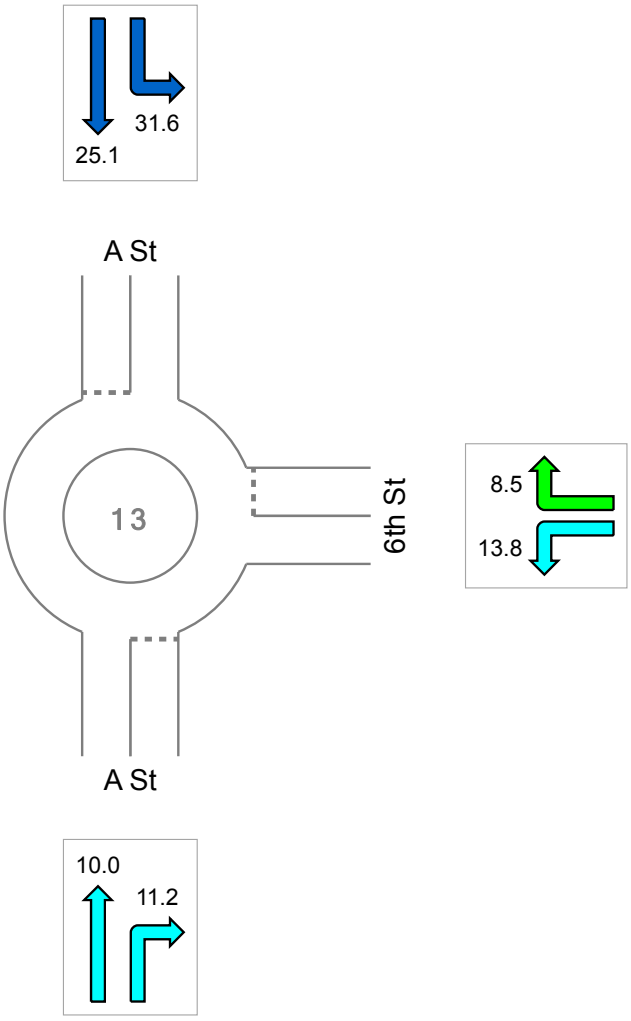
Average control delay per vehicle, or average pedestrian delay (seconds)

Site: A St & 7th St-2040wp Partial Closure PM

2040 Without-Project AM Peak Hour
Roundabout

All Movement Classes

	South	East	North	Intersection
Delay (Average)	11.1	12.2	29.4	16.6
LOS	B	B	C	B



Colour code based on Level of Service

LOS A | LOS B | LOS C | LOS D | LOS E | LOS F | Continuous

Level of Service Method: Delay & v/c (HCM 2010)
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Roundabout Level of Service Method: Same as Signalised Intersections
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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MOVEMENT SUMMARY

Site: A St & 7th St-2040wp Partial Closure PM

2040 Without-Project AM Peak Hour
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: A St											
8	T1	40	2.0	0.450	10.0	LOS B	3.4	86.0	0.73	1.50	22.5
18	R2	300	2.0	0.450	11.2	LOS B	3.4	86.0	0.73	1.50	22.5
Approach		340	2.0	0.450	11.1	LOS B	3.4	86.0	0.73	0.75	22.5
East: 6th St											
1	L2	602	2.0	0.655	13.8	LOS B	8.8	224.5	0.40	1.14	22.6
16	R2	274	2.0	0.655	8.5	LOS A	8.8	224.5	0.40	1.14	22.6
Approach		876	2.0	0.655	12.2	LOS B	8.8	224.5	0.40	0.57	22.6
North: A St											
7	L2	295	2.0	0.781	31.6	LOS C	10.1	256.5	1.00	2.41	14.3
4	T1	152	2.0	0.781	25.1	LOS C	10.1	256.5	1.00	2.41	14.3
Approach		446	2.0	0.781	29.4	LOS C	10.1	256.5	1.00	1.21	14.3
All Vehicles		1662	2.0	0.781	16.6	LOS B	10.1	256.5	0.63	0.78	19.6

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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SIDRA INTERSECTION 6

INTERSECTION SUMMARY

Site: A St & 7th St-2040wp Partial Closure PM

2040 Without-Project AM Peak Hour
Roundabout

Intersection Performance - Hourly Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	1662	veh/h	1995	pers/h
Percent Heavy Vehicles (Demand)	2.0	%		
Degree of Saturation	0.781			
Practical Spare Capacity	8.8	%		
Effective Intersection Capacity	2127	veh/h		
Control Delay (Total)	7.65	veh-h/h	9.18	pers-h/h
Control Delay (Average)	16.6	sec	16.6	sec
Control Delay (Worst Lane)	29.4	sec		
Control Delay (Worst Movement)	31.6	sec	31.6	sec
Geometric Delay (Average)	10.7	sec		
Stop-Line Delay (Average)	5.9	sec		
Idling Time (Average)	2.6	sec		
Intersection Level of Service (LOS)	LOS B			
95% Back of Queue - Vehicles (Worst Lane)	10.1	veh		
95% Back of Queue - Distance (Worst Lane)	256.5	ft		
Queue Storage Ratio (Worst Lane)	1.13			
Total Effective Stops	1292	veh/h	1550	pers/h
Effective Stop Rate	0.78	per veh	0.78	per pers
Proportion Queued	0.63		0.63	
Performance Index	58.5		58.5	
Travel Distance (Total)	308.3	veh-mi/h	370.0	pers-mi/h
Travel Distance (Average)	980	ft	980	ft
Travel Time (Total)	15.7	veh-h/h	18.9	pers-h/h
Travel Time (Average)	34.1	sec	34.1	sec
Travel Speed	19.6	mph	19.6	mph
Cost (Total)	266.45	$/h	266.45	$/h
Fuel Consumption (Total)	10.3	gal/h		
Carbon Dioxide (Total)	92.1	kg/h		
Hydrocarbons (Total)	0.041	kg/h		
Carbon Monoxide (Total)	0.288	kg/h		
NOx (Total)	0.201	kg/h		

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Signalised Intersections.
Intersection LOS value for Vehicles is based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	797,810	veh/y	957,373	pers/y
Delay	3,672	veh-h/y	4,407	pers-h/y
Effective Stops	620,079	veh/y	744,095	pers/y
Travel Distance	148,005	veh-mi/y	177,606	pers-mi/y
Travel Time	7,549	veh-h/y	9,059	pers-h/y
Cost	127,898	$/y	127,898	$/y
Fuel Consumption	4,959	gal/y		
Carbon Dioxide	44,218	kg/y		
Hydrocarbons	20	kg/y		
Carbon Monoxide	138	kg/y		
NOx	96	kg/y		

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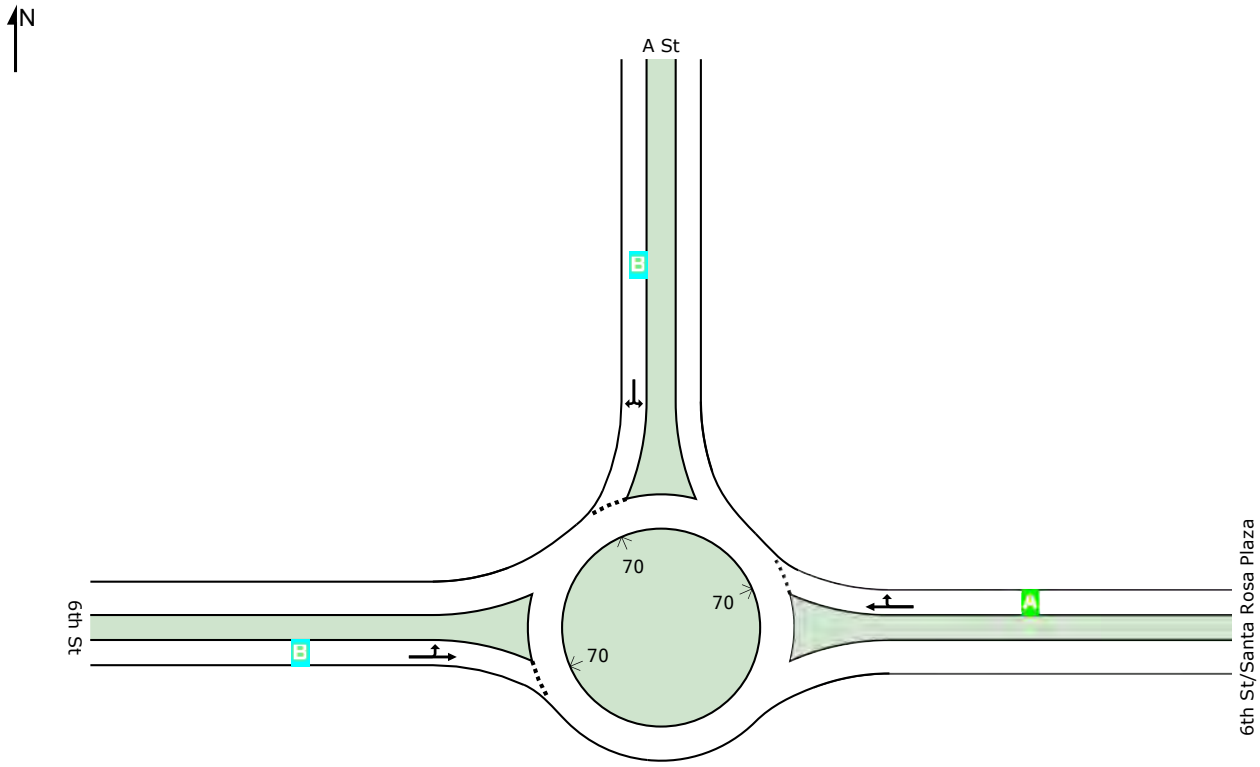
LEVEL OF SERVICE

Site: A St & 6th St/Santa Rosa Plaza-2040wp Partial Closure PM

2040 Without-Project AM Peak Hour
Roundabout



	East	North	West	Intersection
LOS	A	B	B	B

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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SIDRA INTERSECTION 6

DELAY (AVERAGE)

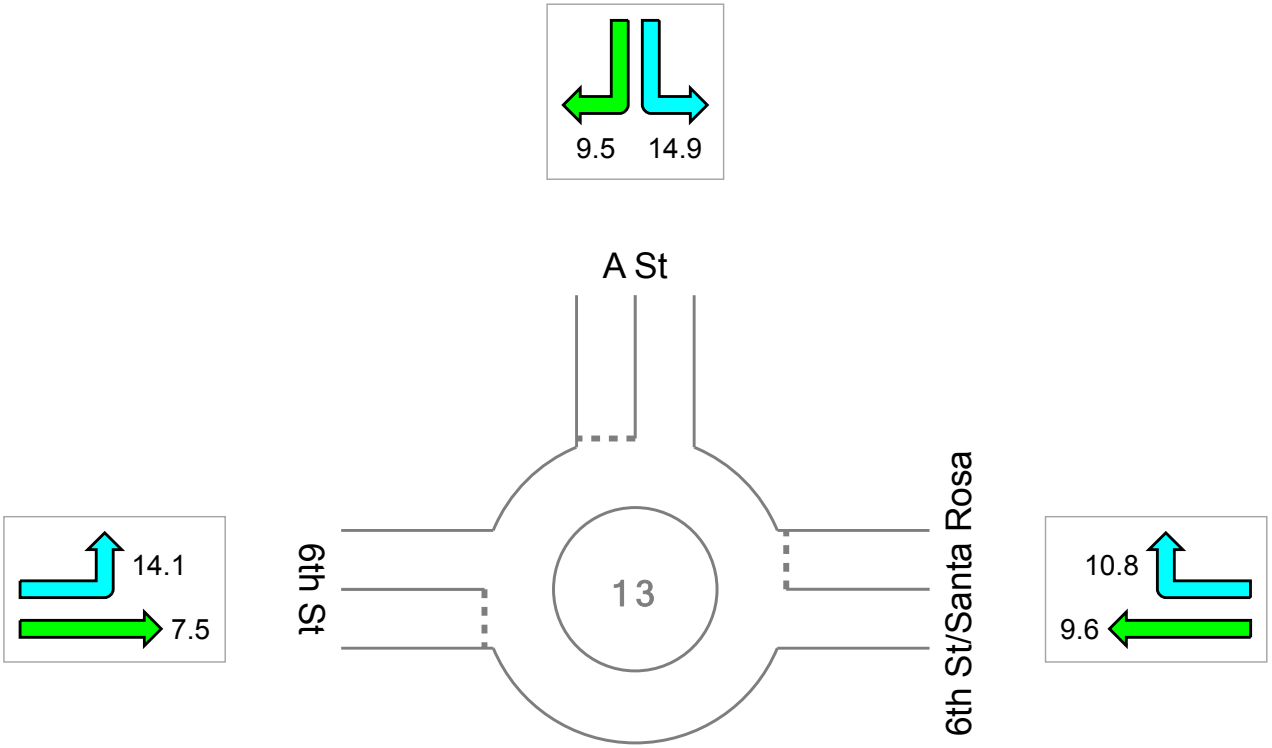
Average control delay per vehicle, or average pedestrian delay (seconds)

Site: A St & 6th St/Santa Rosa Plaza-2040wp Partial Closure PM

2040 Without-Project AM Peak Hour
Roundabout

All Movement Classes

	East	North	West	Intersection
Delay (Average)	9.8	10.1	12.6	10.9
LOS	A	B	B	B



Colour code based on Level of Service

LOS A | LOS B | LOS C | LOS D | LOS E | LOS F | Continuous

Level of Service Method: Delay & v/c (HCM 2010)
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Roundabout Level of Service Method: Same as Signalised Intersections
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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MOVEMENT SUMMARY

Site: A St & 6th St/Santa Rosa Plaza-2040wp Partial Closure PM

2040 Without-Project AM Peak Hour
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
East: 6th St/Santa Rosa Plaza											
6	T1	105	2.0	0.178	9.6	LOS A	1.0	25.4	0.57	1.32	24.3
16	R2	32	2.0	0.178	10.8	LOS B	1.0	25.4	0.57	1.32	24.3
Approach		137	2.0	0.178	9.8	LOS A	1.0	25.4	0.57	0.66	24.3
North: A St											
7	L2	84	2.0	0.691	14.9	LOS B	8.4	213.5	0.65	1.17	22.6
14	R2	700	2.0	0.691	9.5	LOS A	8.4	213.5	0.65	1.17	22.6
Approach		784	2.0	0.691	10.1	LOS B	8.4	213.5	0.65	0.59	22.6
West: 6th St											
5	L2	323	2.0	0.372	14.1	LOS B	2.9	73.9	0.38	1.25	22.1
2	T1	95	2.0	0.372	7.5	LOS A	2.9	73.9	0.38	1.25	22.1
Approach		418	2.0	0.372	12.6	LOS B	2.9	73.9	0.38	0.63	22.1
All Vehicles		1339	2.0	0.691	10.9	LOS B	8.4	213.5	0.56	0.61	22.6

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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SIDRA INTERSECTION 6

INTERSECTION SUMMARY

Site: A St & 6th St/Santa Rosa Plaza-2040wp Partial Closure PM

2040 Without-Project AM Peak Hour
Roundabout

Intersection Performance - Hourly Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	1339	veh/h	1607	pers/h
Percent Heavy Vehicles (Demand)	2.0	%		
Degree of Saturation	0.691			
Practical Spare Capacity	23.0	%		
Effective Intersection Capacity	1937	veh/h		
Control Delay (Total)	4.04	veh-h/h	4.85	pers-h/h
Control Delay (Average)	10.9	sec	10.9	sec
Control Delay (Worst Lane)	12.6	sec		
Control Delay (Worst Movement)	14.9	sec	14.9	sec
Geometric Delay (Average)	9.4	sec		
Stop-Line Delay (Average)	1.5	sec		
Idling Time (Average)	0.0	sec		
Intersection Level of Service (LOS)	LOS B			
95% Back of Queue - Vehicles (Worst Lane)	8.4	veh		
95% Back of Queue - Distance (Worst Lane)	213.5	ft		
Queue Storage Ratio (Worst Lane)	0.94			
Total Effective Stops	811	veh/h	973	pers/h
Effective Stop Rate	0.61	per veh	0.61	per pers
Proportion Queued	0.56		0.56	
Performance Index	34.3		34.3	
Travel Distance (Total)	235.4	veh-mi/h	282.5	pers-mi/h
Travel Distance (Average)	928	ft	928	ft
Travel Time (Total)	10.4	veh-h/h	12.5	pers-h/h
Travel Time (Average)	28.0	sec	28.0	sec
Travel Speed	22.6	mph	22.6	mph
Cost (Total)	182.24	$/h	182.24	$/h
Fuel Consumption (Total)	7.5	gal/h		
Carbon Dioxide (Total)	66.7	kg/h		
Hydrocarbons (Total)	0.027	kg/h		
Carbon Monoxide (Total)	0.204	kg/h		
NOx (Total)	0.158	kg/h		

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Signalised Intersections.
Intersection LOS value for Vehicles is based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	642,695	veh/y	771,234	pers/y
Delay	1,940	veh-h/y	2,328	pers-h/y
Effective Stops	389,140	veh/y	466,967	pers/y
Travel Distance	113,005	veh-mi/y	135,606	pers-mi/y
Travel Time	5,006	veh-h/y	6,007	pers-h/y
Cost	87,473	$/y	87,473	$/y
Fuel Consumption	3,591	gal/y		
Carbon Dioxide	32,023	kg/y		
Hydrocarbons	13	kg/y		
Carbon Monoxide	98	kg/y		
NOx	76	kg/y		

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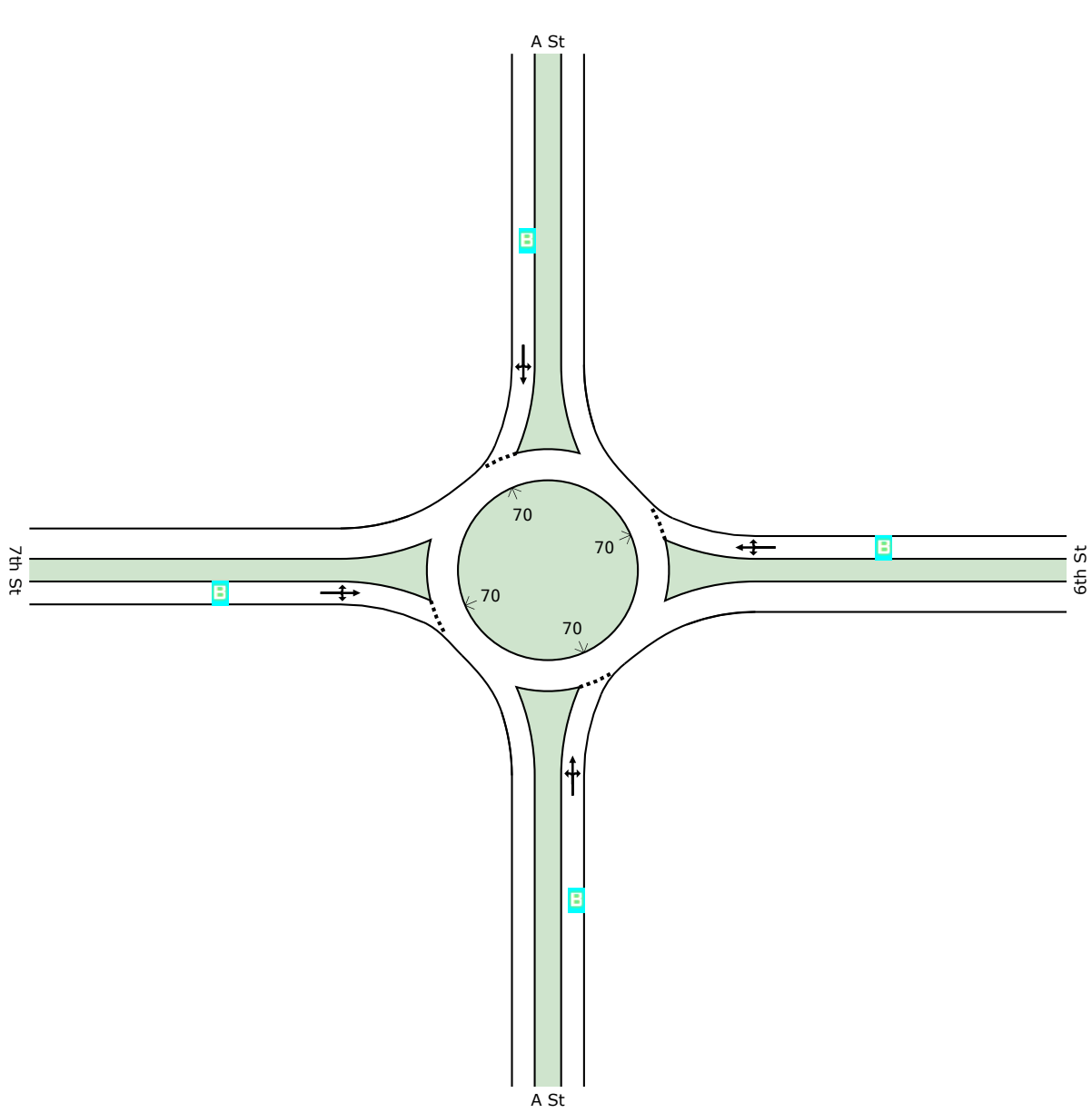
LEVEL OF SERVICE

Site: A St & 7th St-2040np-am

2040 Without-Project AM Peak Hour
Roundabout



	South	East	North	West	Intersection
LOS	B	B	B	B	B

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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DELAY (AVERAGE)

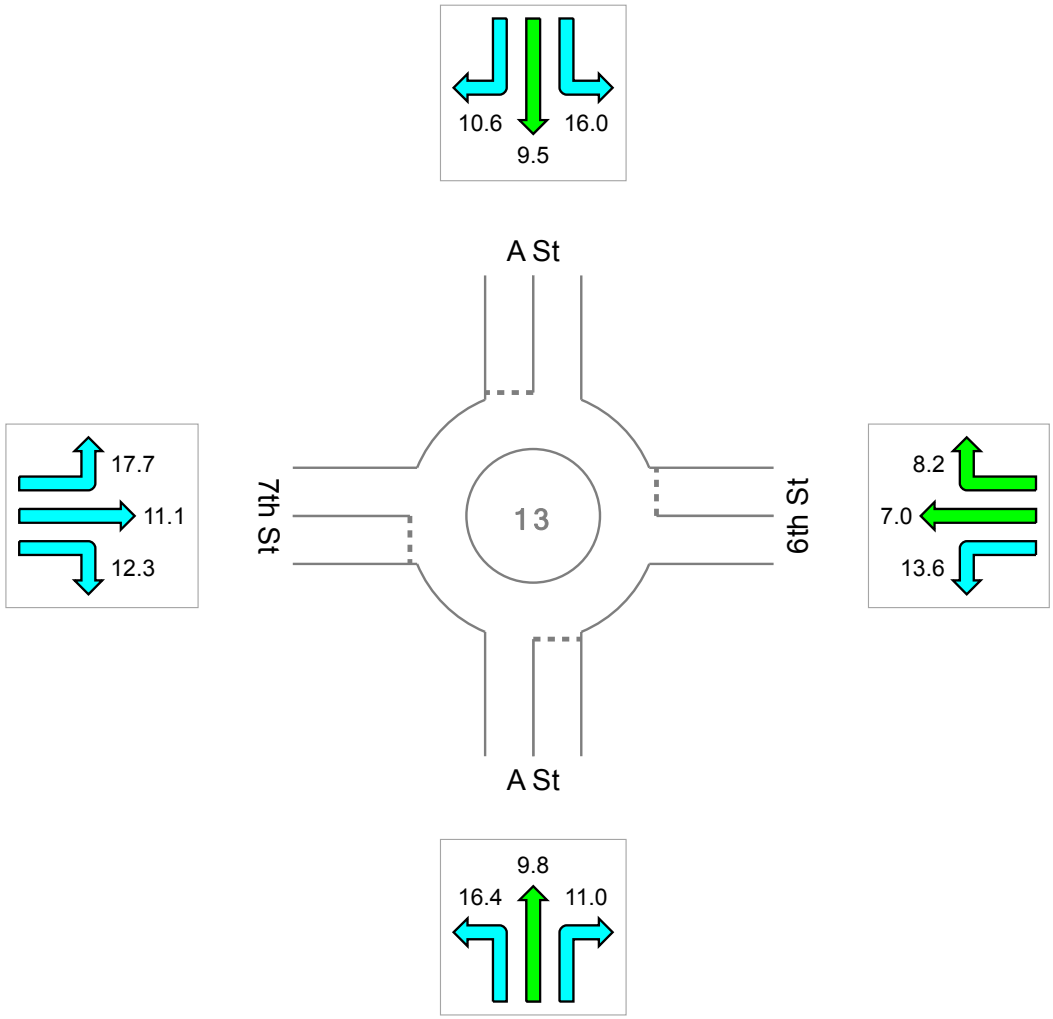
Average control delay per vehicle, or average pedestrian delay (seconds)

Site: A St & 7th St-2040np-am

2040 Without-Project AM Peak Hour
Roundabout

All Movement Classes

	South	East	North	West	Intersection
Delay (Average)	11.2	10.6	14.6	13.7	11.9
LOS	B	B	B	B	B



Colour code based on Level of Service

LOS A | LOS B | LOS C | LOS D | LOS E | LOS F | Continuous

Level of Service Method: Delay & v/c (HCM 2010)
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Roundabout Level of Service Method: Same as Signalised Intersections
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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SIDRA INTERSECTION 6

INTERSECTION SUMMARY

Site: A St & 7th St-2040np-am

2040 Without-Project AM Peak Hour
Roundabout

Intersection Performance - Hourly Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	1200	veh/h	1440	pers/h
Percent Heavy Vehicles (Demand)	2.0	%		
Degree of Saturation	0.455			
Practical Spare Capacity	86.7	%		
Effective Intersection Capacity	2636	veh/h		
Control Delay (Total)	3.98	veh-h/h	4.78	pers-h/h
Control Delay (Average)	11.9	sec	11.9	sec
Control Delay (Worst Lane)	14.6	sec		
Control Delay (Worst Movement)	17.7	sec	17.7	sec
Geometric Delay (Average)	10.0	sec		
Stop-Line Delay (Average)	1.9	sec		
Idling Time (Average)	0.1	sec		
Intersection Level of Service (LOS)	LOS B			
95% Back of Queue - Vehicles (Worst Lane)	3.3	veh		
95% Back of Queue - Distance (Worst Lane)	83.7	ft		
Queue Storage Ratio (Worst Lane)	0.37			
Total Effective Stops	811	veh/h	973	pers/h
Effective Stop Rate	0.68	per veh	0.68	per pers
Proportion Queued	0.47		0.47	
Performance Index	35.4		35.4	
Travel Distance (Total)	217.5	veh-mi/h	261.0	pers-mi/h
Travel Distance (Average)	957	ft	957	ft
Travel Time (Total)	9.6	veh-h/h	11.5	pers-h/h
Travel Time (Average)	28.8	sec	28.8	sec
Travel Speed	22.7	mph	22.7	mph
Cost (Total)	166.83	$/h	166.83	$/h
Fuel Consumption (Total)	6.8	gal/h		
Carbon Dioxide (Total)	60.8	kg/h		
Hydrocarbons (Total)	0.025	kg/h		
Carbon Monoxide (Total)	0.187	kg/h		
NOx (Total)	0.142	kg/h		

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Signalised Intersections.
Intersection LOS value for Vehicles is based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	576,000	veh/y	691,200	pers/y
Delay	1,911	veh-h/y	2,294	pers-h/y
Effective Stops	389,296	veh/y	467,155	pers/y
Travel Distance	104,395	veh-mi/y	125,273	pers-mi/y
Travel Time	4,601	veh-h/y	5,521	pers-h/y
Cost	80,079	$/y	80,079	$/y
Fuel Consumption	3,275	gal/y		
Carbon Dioxide	29,207	kg/y		
Hydrocarbons	12	kg/y		
Carbon Monoxide	90	kg/y		
NOx	68	kg/y		

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MOVEMENT SUMMARY

Site: A St & 7th St-2040np-am

2040 Without-Project AM Peak Hour
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: A St											
3	L2	11	2.0	0.455	16.4	LOS B	3.3	83.7	0.67	1.45	22.6
8	T1	11	2.0	0.455	9.8	LOS A	3.3	83.7	0.67	1.45	22.6
18	R2	347	2.0	0.455	11.0	LOS B	3.3	83.7	0.67	1.45	22.6
Approach		368	2.0	0.455	11.2	LOS B	3.3	83.7	0.67	0.73	22.6
East: 6th St											
1	L2	221	2.0	0.360	13.6	LOS B	2.8	71.1	0.21	1.18	24.0
6	T1	21	2.0	0.360	7.0	LOS A	2.8	71.1	0.21	1.18	24.0
16	R2	232	2.0	0.360	8.2	LOS A	2.8	71.1	0.21	1.18	24.0
Approach		474	2.0	0.360	10.6	LOS B	2.8	71.1	0.21	0.59	24.0
North: A St											
7	L2	253	2.0	0.386	16.0	LOS B	2.5	64.1	0.59	1.48	21.2
4	T1	63	2.0	0.386	9.5	LOS A	2.5	64.1	0.59	1.48	21.2
14	R2	11	2.0	0.386	10.6	LOS B	2.5	64.1	0.59	1.48	21.2
Approach		326	2.0	0.386	14.6	LOS B	2.5	64.1	0.59	0.74	21.2
West: 7th St											
5	L2	11	2.0	0.051	17.7	LOS B	0.3	6.8	0.65	1.44	21.4
2	T1	11	2.0	0.051	11.1	LOS B	0.3	6.8	0.65	1.44	21.4
12	R2	11	2.0	0.051	12.3	LOS B	0.3	6.8	0.65	1.44	21.4
Approach		32	2.0	0.051	13.7	LOS B	0.3	6.8	0.65	0.72	21.4
All Vehicles		1200	2.0	0.455	11.9	LOS B	3.3	83.7	0.47	0.68	22.7

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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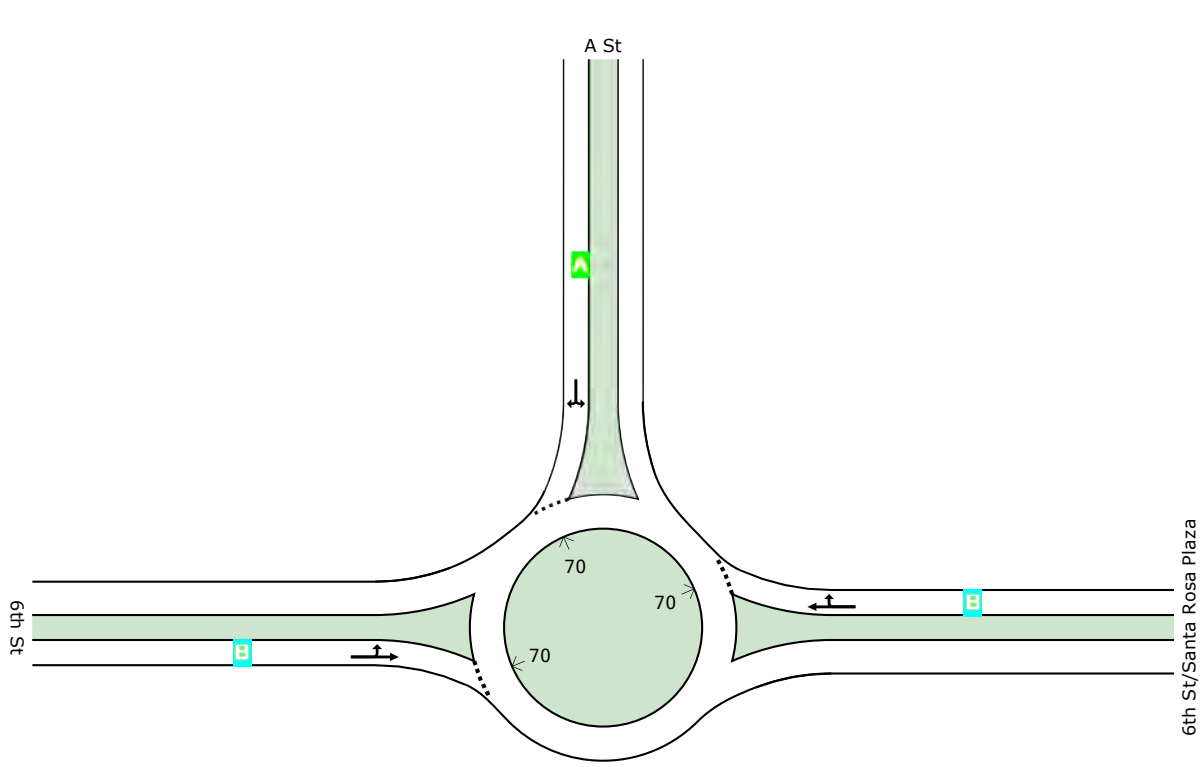
SIDRA INTERSECTION 6

LEVEL OF SERVICE

Site: A St & 6th St/Santa Rosa Plaza-2040np-am

2040 Without-Project AM Peak Hour
Roundabout



	East	North	West	Intersection
LOS	B	A	B	B

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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SIDRA INTERSECTION 6

DELAY (AVERAGE)

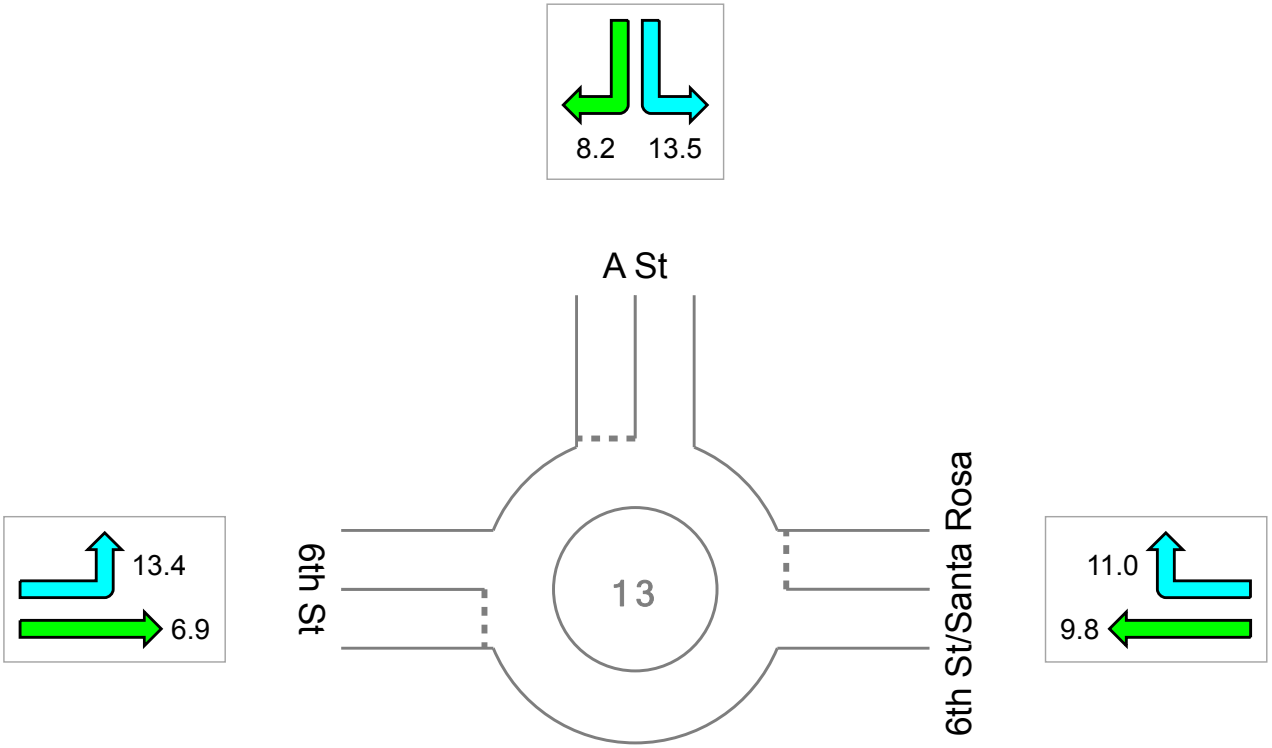
Average control delay per vehicle, or average pedestrian delay (seconds)

Site: A St & 6th St/Santa Rosa Plaza-2040np-am

2040 Without-Project AM Peak Hour
Roundabout

All Movement Classes

	East	North	West	Intersection
Delay (Average)	10.2	8.5	12.7	10.8
LOS	B	A	B	B



Colour code based on Level of Service

LOS A | LOS B | LOS C | LOS D | LOS E | LOS F | Continuous

Level of Service Method: Delay & v/c (HCM 2010)
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Roundabout Level of Service Method: Same as Signalised Intersections
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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SIDRA INTERSECTION 6

INTERSECTION SUMMARY

Site: A St & 6th St/Santa Rosa Plaza-2040np-am

2040 Without-Project AM Peak Hour
Roundabout

Intersection Performance - Hourly Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	811	veh/h	973	pers/h
Percent Heavy Vehicles (Demand)	2.0	%		
Degree of Saturation	0.315			
Practical Spare Capacity	169.7	%		
Effective Intersection Capacity	2572	veh/h		
Control Delay (Total)	2.44	veh-h/h	2.93	pers-h/h
Control Delay (Average)	10.8	sec	10.8	sec
Control Delay (Worst Lane)	12.7	sec		
Control Delay (Worst Movement)	13.5	sec	13.5	sec
Geometric Delay (Average)	10.5	sec		
Stop-Line Delay (Average)	0.4	sec		
Idling Time (Average)	0.0	sec		
Intersection Level of Service (LOS)	LOS B			
95% Back of Queue - Vehicles (Worst Lane)	2.2	veh		
95% Back of Queue - Distance (Worst Lane)	55.3	ft		
Queue Storage Ratio (Worst Lane)	0.24			
Total Effective Stops	487	veh/h	584	pers/h
Effective Stop Rate	0.60	per veh	0.60	per pers
Proportion Queued	0.19		0.19	
Performance Index	15.7		15.7	
Travel Distance (Total)	145.2	veh-mi/h	174.2	pers-mi/h
Travel Distance (Average)	946	ft	946	ft
Travel Time (Total)	6.2	veh-h/h	7.4	pers-h/h
Travel Time (Average)	27.5	sec	27.5	sec
Travel Speed	23.4	mph	23.4	mph
Cost (Total)	108.65	$/h	108.65	$/h
Fuel Consumption (Total)	4.5	gal/h		
Carbon Dioxide (Total)	40.2	kg/h		
Hydrocarbons (Total)	0.016	kg/h		
Carbon Monoxide (Total)	0.123	kg/h		
NOx (Total)	0.095	kg/h		

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Signalised Intersections.
Intersection LOS value for Vehicles is based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	389,053	veh/y	466,863	pers/y
Delay	1,171	veh-h/y	1,405	pers-h/y
Effective Stops	233,642	veh/y	280,370	pers/y
Travel Distance	69,683	veh-mi/y	83,620	pers-mi/y
Travel Time	2,975	veh-h/y	3,570	pers-h/y
Cost	52,150	$/y	52,150	$/y
Fuel Consumption	2,162	gal/y		
Carbon Dioxide	19,280	kg/y		
Hydrocarbons	8	kg/y		
Carbon Monoxide	59	kg/y		
NOx	46	kg/y		

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MOVEMENT SUMMARY

Site: A St & 6th St/Santa Rosa Plaza-2040np-am

2040 Without-Project AM Peak Hour
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
East: 6th St/Santa Rosa Plaza											
6	T1	32	2.0	0.071	9.8	LOS A	0.4	9.1	0.55	1.28	24.3
16	R2	21	2.0	0.071	11.0	LOS B	0.4	9.1	0.55	1.28	24.3
Approach		53	2.0	0.071	10.2	LOS B	0.4	9.1	0.55	0.64	24.3
North: A St											
7	L2	21	2.0	0.255	13.5	LOS B	1.8	45.5	0.19	1.06	24.9
14	R2	305	2.0	0.255	8.2	LOS A	1.8	45.5	0.19	1.06	24.9
Approach		326	2.0	0.255	8.5	LOS A	1.8	45.5	0.19	0.53	24.9
West: 6th St											
5	L2	379	2.0	0.315	13.4	LOS B	2.2	55.3	0.14	1.30	22.4
2	T1	53	2.0	0.315	6.9	LOS A	2.2	55.3	0.14	1.30	22.4
Approach		432	2.0	0.315	12.7	LOS B	2.2	55.3	0.14	0.65	22.4
All Vehicles		811	2.0	0.315	10.8	LOS B	2.2	55.3	0.19	0.60	23.4

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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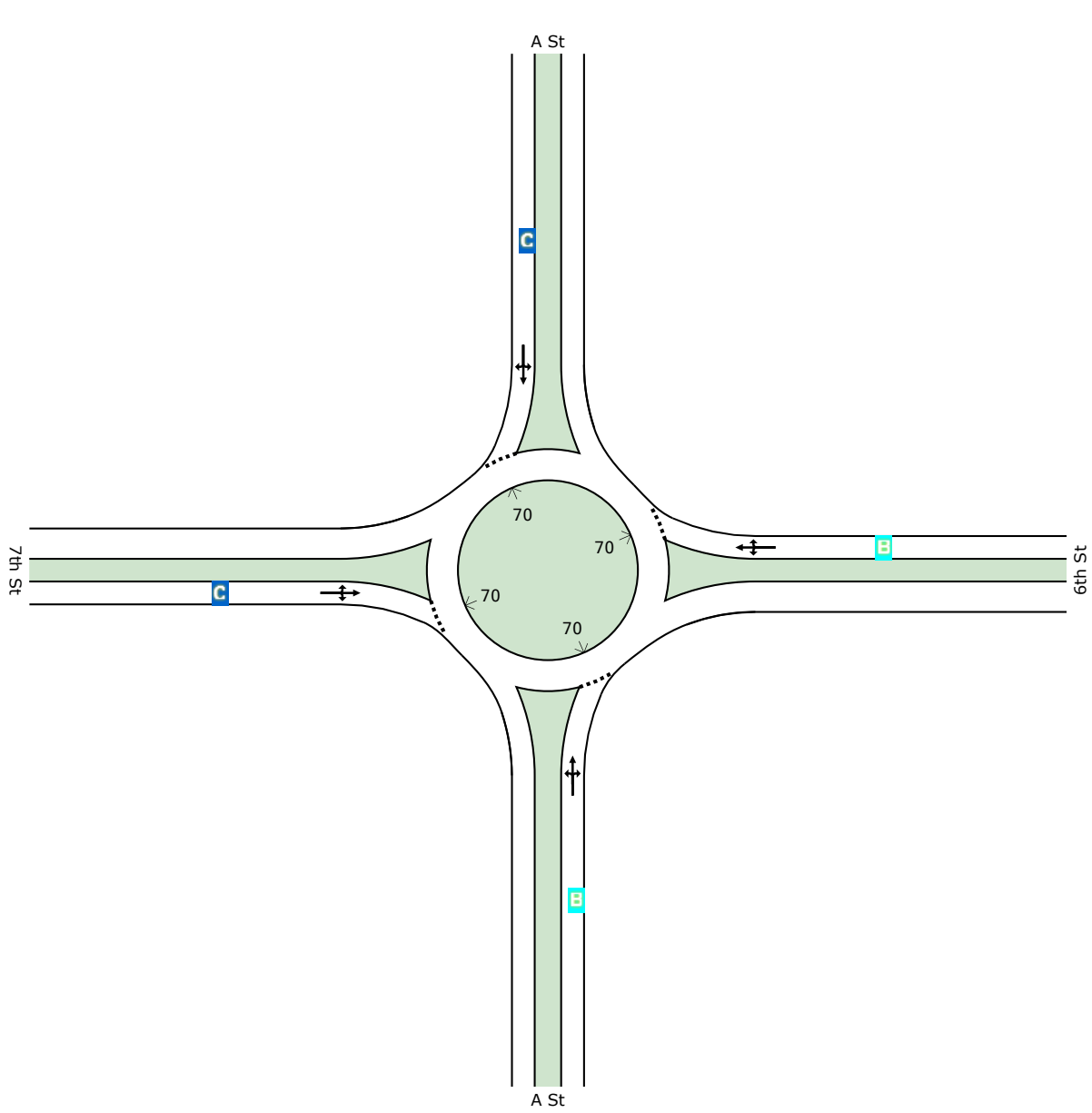
SIDRA INTERSECTION 6

LEVEL OF SERVICE

Site: A St & 7th St-2040np-pm

2040 Without-Project AM Peak Hour
Roundabout



	South	East	North	West	Intersection
LOS	B	B	C	C	B

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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DELAY (AVERAGE)

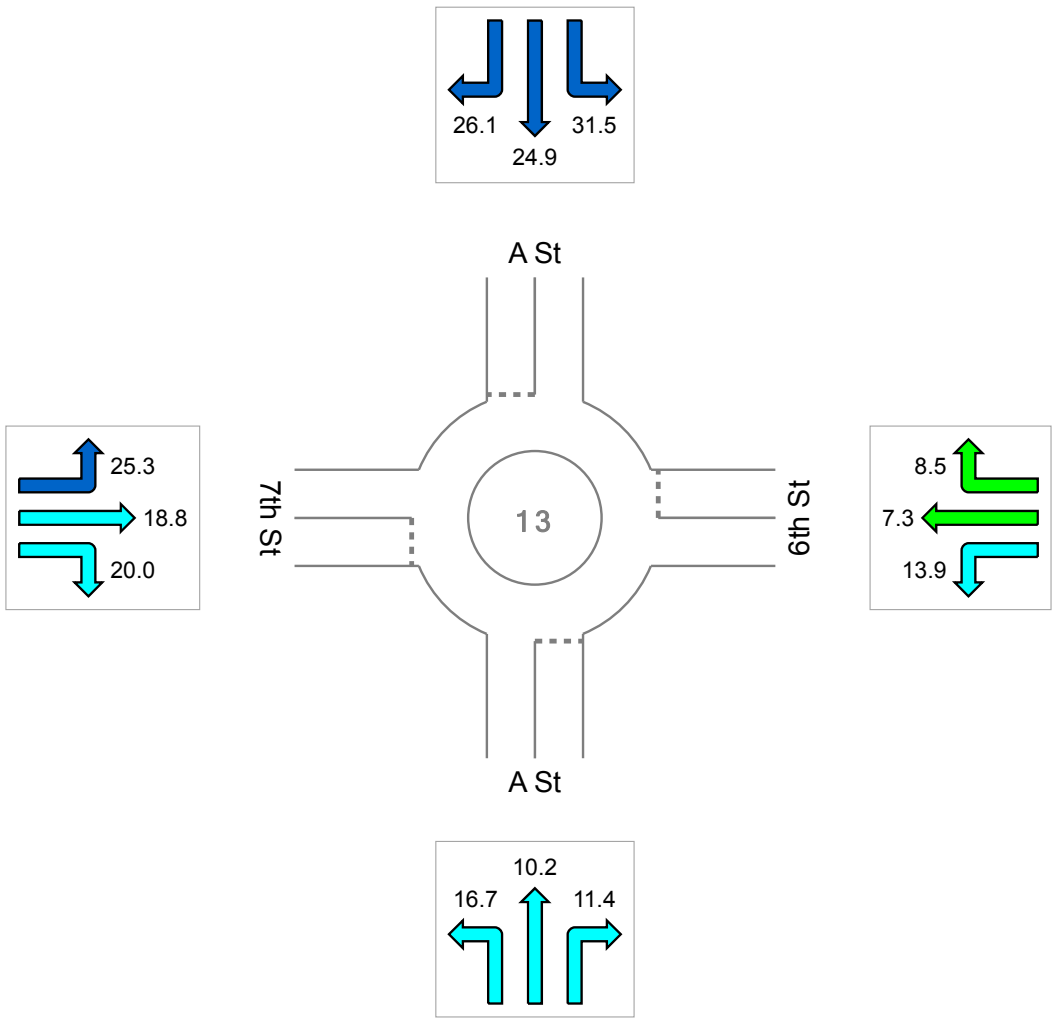
Average control delay per vehicle, or average pedestrian delay (seconds)

Site: A St & 7th St-2040np-pm

2040 Without-Project AM Peak Hour
Roundabout

All Movement Classes

	South	East	North	West	Intersection
Delay (Average)	11.5	12.1	29.4	21.0	16.8
LOS	B	B	C	C	B



Colour code based on Level of Service

LOS A | LOS B | LOS C | LOS D | LOS E | LOS F | Continuous

Level of Service Method: Delay & v/c (HCM 2010)
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Roundabout Level of Service Method: Same as Signalised Intersections
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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SIDRA INTERSECTION 6

INTERSECTION SUMMARY

Site: A St & 7th St-2040np-pm

2040 Without-Project AM Peak Hour
Roundabout

Intersection Performance - Hourly Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	1653	veh/h	1983	pers/h
Percent Heavy Vehicles (Demand)	2.0	%		
Degree of Saturation	0.769			
Practical Spare Capacity	10.5	%		
Effective Intersection Capacity	2149	veh/h		
Control Delay (Total)	7.69	veh-h/h	9.23	pers-h/h
Control Delay (Average)	16.8	sec	16.8	sec
Control Delay (Worst Lane)	29.4	sec		
Control Delay (Worst Movement)	31.5	sec	31.5	sec
Geometric Delay (Average)	10.7	sec		
Stop-Line Delay (Average)	6.0	sec		
Idling Time (Average)	2.7	sec		
Intersection Level of Service (LOS)	LOS B			
95% Back of Queue - Vehicles (Worst Lane)	9.6	veh		
95% Back of Queue - Distance (Worst Lane)	243.8	ft		
Queue Storage Ratio (Worst Lane)	1.07			
Total Effective Stops	1291	veh/h	1550	pers/h
Effective Stop Rate	0.78	per veh	0.78	per pers
Proportion Queued	0.62		0.62	
Performance Index	74.8		74.8	
Travel Distance (Total)	306.7	veh-mi/h	368.0	pers-mi/h
Travel Distance (Average)	980	ft	980	ft
Travel Time (Total)	15.7	veh-h/h	18.8	pers-h/h
Travel Time (Average)	34.2	sec	34.2	sec
Travel Speed	19.6	mph	19.6	mph
Cost (Total)	265.46	$/h	265.46	$/h
Fuel Consumption (Total)	10.3	gal/h		
Carbon Dioxide (Total)	91.7	kg/h		
Hydrocarbons (Total)	0.041	kg/h		
Carbon Monoxide (Total)	0.286	kg/h		
NOx (Total)	0.199	kg/h		

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Signalised Intersections.
Intersection LOS value for Vehicles is based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	793,263	veh/y	951,916	pers/y
Delay	3,692	veh-h/y	4,430	pers-h/y
Effective Stops	619,834	veh/y	743,800	pers/y
Travel Distance	147,212	veh-mi/y	176,654	pers-mi/y
Travel Time	7,526	veh-h/y	9,032	pers-h/y
Cost	127,419	$/y	127,419	$/y
Fuel Consumption	4,936	gal/y		
Carbon Dioxide	44,017	kg/y		
Hydrocarbons	20	kg/y		
Carbon Monoxide	137	kg/y		
NOx	96	kg/y		

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MOVEMENT SUMMARY

Site: A St & 7th St-2040np-pm

2040 Without-Project AM Peak Hour
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: A St											
3	L2	11	2.0	0.427	16.7	LOS B	3.1	78.7	0.72	1.52	22.4
8	T1	21	2.0	0.427	10.2	LOS B	3.1	78.7	0.72	1.52	22.4
18	R2	284	2.0	0.427	11.4	LOS B	3.1	78.7	0.72	1.52	22.4
Approach		316	2.0	0.427	11.5	LOS B	3.1	78.7	0.72	0.76	22.4
East: 6th St											
1	L2	589	2.0	0.649	13.9	LOS B	8.2	209.1	0.39	1.15	22.7
6	T1	21	2.0	0.649	7.3	LOS A	8.2	209.1	0.39	1.15	22.7
16	R2	253	2.0	0.649	8.5	LOS A	8.2	209.1	0.39	1.15	22.7
Approach		863	2.0	0.649	12.1	LOS B	8.2	209.1	0.39	0.58	22.7
North: A St											
7	L2	295	2.0	0.769	31.5	LOS C	9.6	243.8	0.99	2.39	14.3
4	T1	126	2.0	0.769	24.9	LOS C	9.6	243.8	0.99	2.39	14.3
14	R2	11	2.0	0.769	26.1	LOS C	9.6	243.8	0.99	2.39	14.3
Approach		432	2.0	0.769	29.4	LOS C	9.6	243.8	0.99	1.20	14.3
West: 7th St											
5	L2	11	2.0	0.123	25.3	LOS C	0.7	18.4	0.86	1.81	17.1
2	T1	11	2.0	0.123	18.8	LOS B	0.7	18.4	0.86	1.81	17.1
12	R2	21	2.0	0.123	20.0	LOS B	0.7	18.4	0.86	1.81	17.1
Approach		42	2.0	0.123	21.0	LOS C	0.7	18.4	0.86	0.90	17.1
All Vehicles		1653	2.0	0.769	16.8	LOS B	9.6	243.8	0.62	0.78	19.6

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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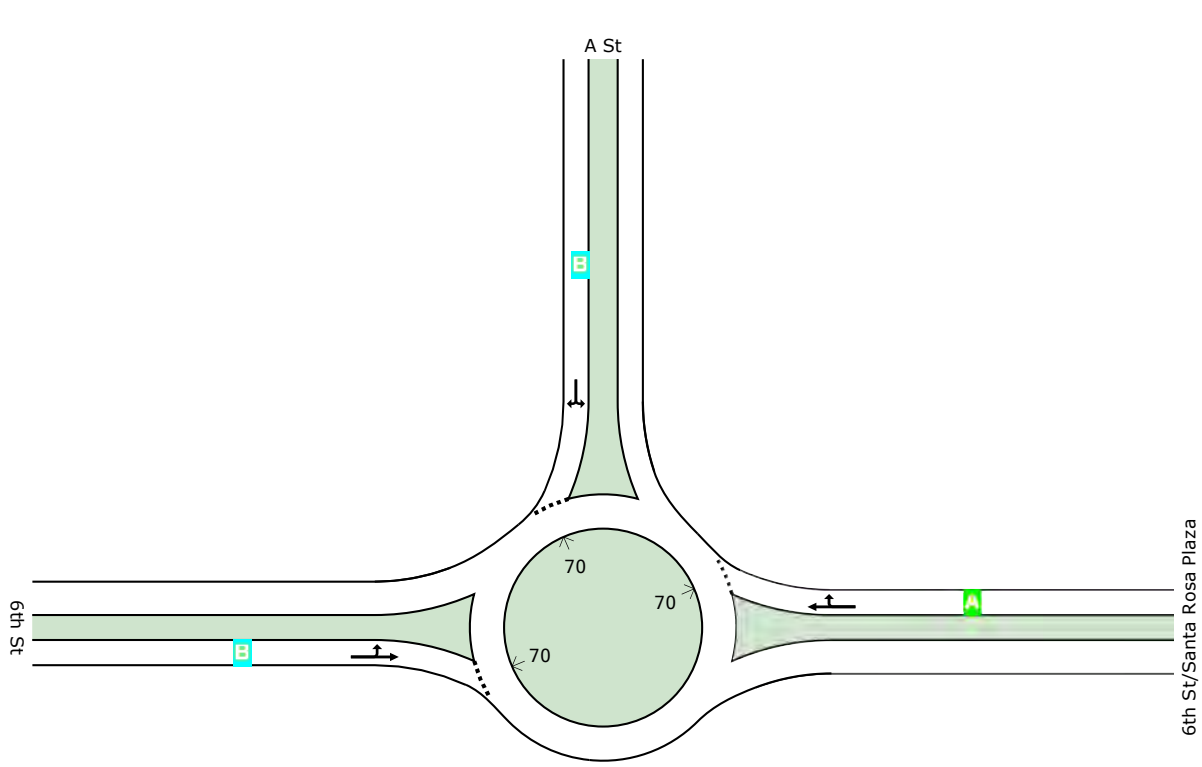
SIDRA INTERSECTION 6

LEVEL OF SERVICE

Site: A St & 6th St/Santa Rosa Plaza-2040np-pm

2040 Without-Project AM Peak Hour
Roundabout



	East	North	West	Intersection
LOS	A	B	B	B

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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SIDRA INTERSECTION 6

DELAY (AVERAGE)

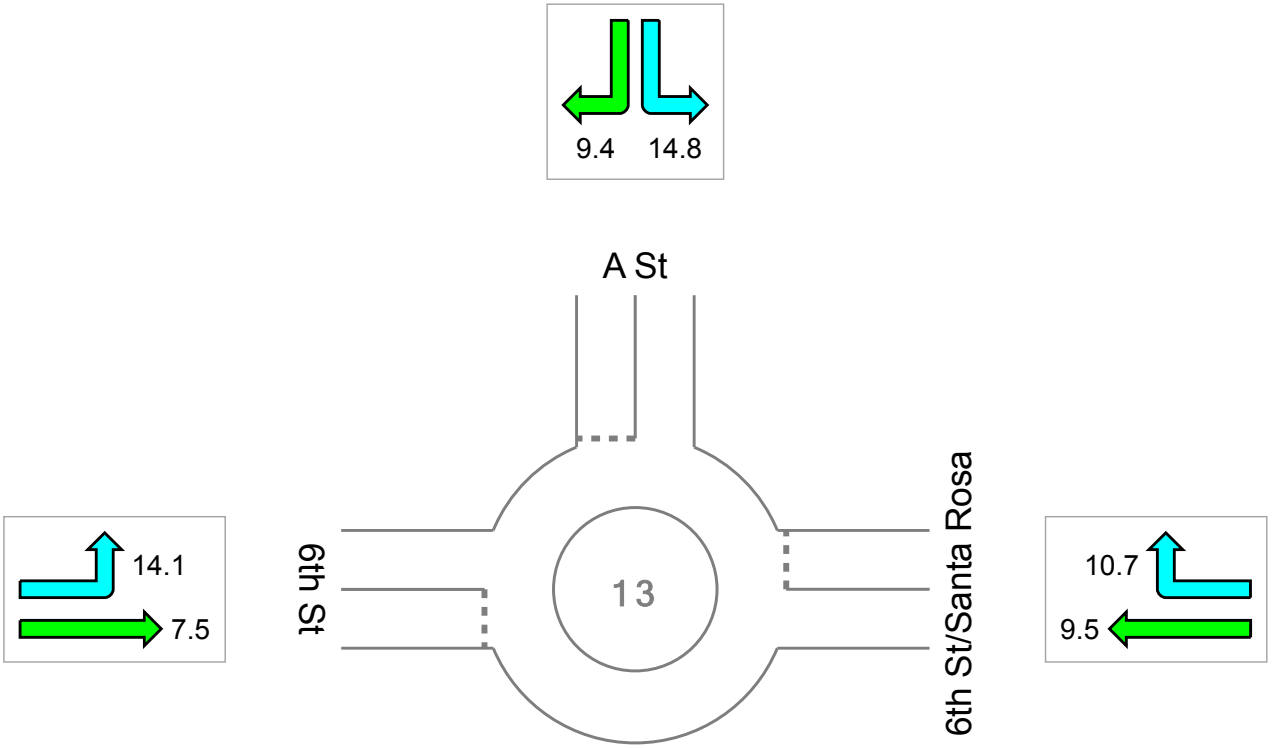
Average control delay per vehicle, or average pedestrian delay (seconds)

Site: A St & 6th St/Santa Rosa Plaza-2040np-pm

2040 Without-Project AM Peak Hour
Roundabout

All Movement Classes

	East	North	West	Intersection
Delay (Average)	9.8	10.0	12.6	10.8
LOS	A	B	B	B



Colour code based on Level of Service

LOS A | LOS B | LOS C | LOS D | LOS E | LOS F | Continuous

Level of Service Method: Delay & v/c (HCM 2010)
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Roundabout Level of Service Method: Same as Signalised Intersections
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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SIDRA INTERSECTION 6

INTERSECTION SUMMARY

Site: A St & 6th St/Santa Rosa Plaza-2040np-pm

2040 Without-Project AM Peak Hour
Roundabout

Intersection Performance - Hourly Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	1284	veh/h	1541	pers/h
Percent Heavy Vehicles (Demand)	2.0	%		
Degree of Saturation	0.653			
Practical Spare Capacity	30.2	%		
Effective Intersection Capacity	1968	veh/h		
Control Delay (Total)	3.86	veh-h/h	4.63	pers-h/h
Control Delay (Average)	10.8	sec	10.8	sec
Control Delay (Worst Lane)	12.6	sec		
Control Delay (Worst Movement)	14.8	sec	14.8	sec
Geometric Delay (Average)	9.4	sec		
Stop-Line Delay (Average)	1.4	sec		
Idling Time (Average)	0.0	sec		
Intersection Level of Service (LOS)	LOS B			
95% Back of Queue - Vehicles (Worst Lane)	7.4	veh		
95% Back of Queue - Distance (Worst Lane)	187.3	ft		
Queue Storage Ratio (Worst Lane)	0.82			
Total Effective Stops	777	veh/h	933	pers/h
Effective Stop Rate	0.61	per veh	0.61	per pers
Proportion Queued	0.53		0.53	
Performance Index	31.8		31.8	
Travel Distance (Total)	226.0	veh-mi/h	271.2	pers-mi/h
Travel Distance (Average)	929	ft	929	ft
Travel Time (Total)	10.0	veh-h/h	12.0	pers-h/h
Travel Time (Average)	27.9	sec	27.9	sec
Travel Speed	22.7	mph	22.7	mph
Cost (Total)	174.22	$/h	174.22	$/h
Fuel Consumption (Total)	7.2	gal/h		
Carbon Dioxide (Total)	63.9	kg/h		
Hydrocarbons (Total)	0.026	kg/h		
Carbon Monoxide (Total)	0.196	kg/h		
NOx (Total)	0.151	kg/h		

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Signalised Intersections.
Intersection LOS value for Vehicles is based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	616,421	veh/y	739,705	pers/y
Delay	1,853	veh-h/y	2,224	pers-h/y
Effective Stops	373,162	veh/y	447,794	pers/y
Travel Distance	108,499	veh-mi/y	130,199	pers-mi/y
Travel Time	4,783	veh-h/y	5,739	pers-h/y
Cost	83,628	$/y	83,628	$/y
Fuel Consumption	3,439	gal/y		
Carbon Dioxide	30,662	kg/y		
Hydrocarbons	13	kg/y		
Carbon Monoxide	94	kg/y		
NOx	73	kg/y		

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MOVEMENT SUMMARY

Site: A St & 6th St/Santa Rosa Plaza-2040np-pm

2040 Without-Project AM Peak Hour
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
East: 6th St/Santa Rosa Plaza											
6	T1	105	2.0	0.177	9.5	LOS A	1.0	25.2	0.56	1.31	24.3
16	R2	32	2.0	0.177	10.7	LOS B	1.0	25.2	0.56	1.31	24.3
Approach		137	2.0	0.177	9.8	LOS A	1.0	25.2	0.56	0.65	24.3
North: A St											
7	L2	84	2.0	0.653	14.8	LOS B	7.4	187.3	0.61	1.17	22.8
14	R2	653	2.0	0.653	9.4	LOS A	7.4	187.3	0.61	1.17	22.8
Approach		737	2.0	0.653	10.0	LOS B	7.4	187.3	0.61	0.58	22.8
West: 6th St											
5	L2	316	2.0	0.366	14.1	LOS B	2.8	71.4	0.38	1.25	22.1
2	T1	95	2.0	0.366	7.5	LOS A	2.8	71.4	0.38	1.25	22.1
Approach		411	2.0	0.366	12.6	LOS B	2.8	71.4	0.38	0.63	22.1
All Vehicles		1284	2.0	0.653	10.8	LOS B	7.4	187.3	0.53	0.61	22.7

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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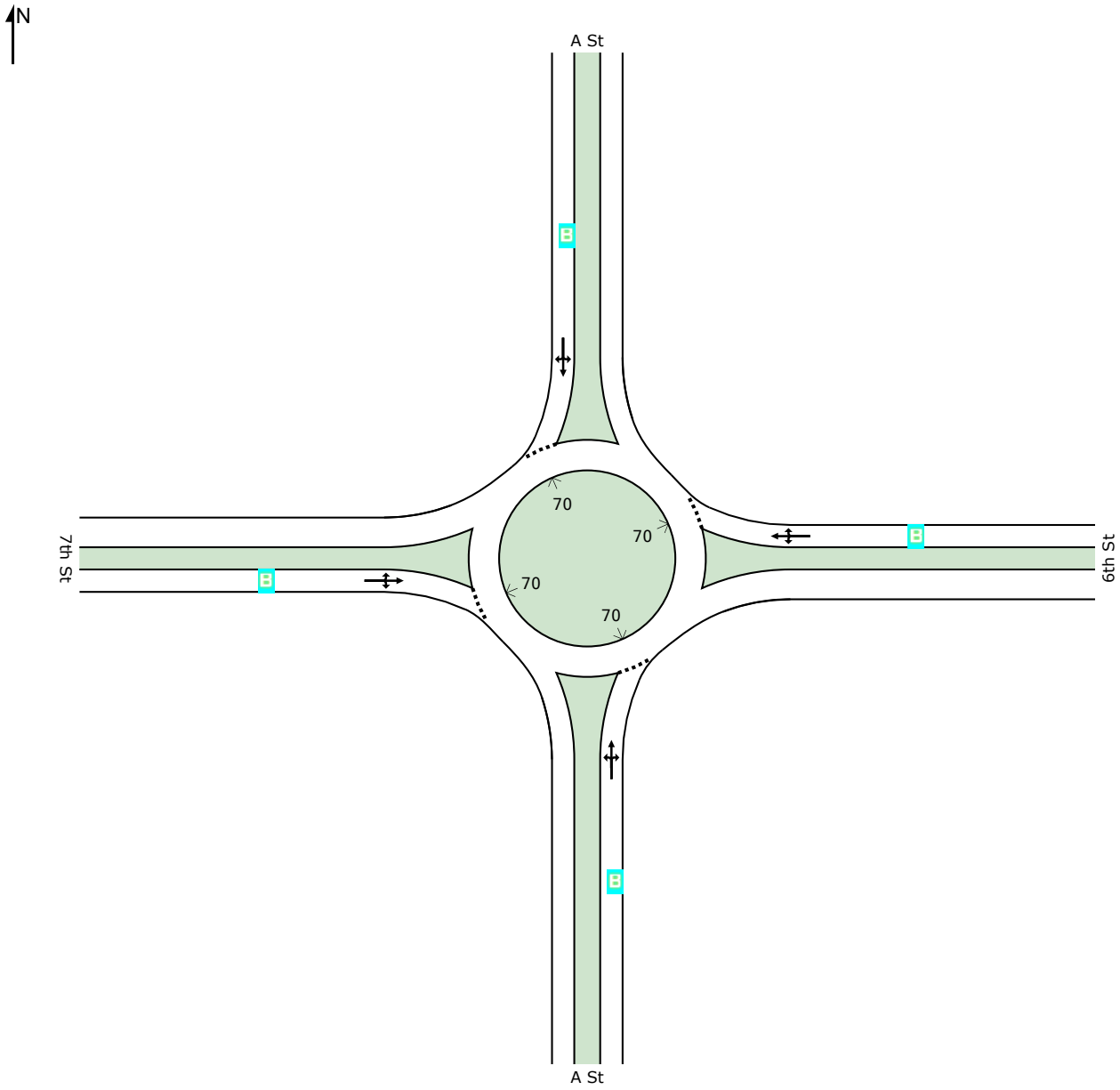
SIDRA INTERSECTION 6

LEVEL OF SERVICE

Site: A St & 7th St-2040wp-am

2040 Without-Project AM Peak Hour
Roundabout



	South	East	North	West	Intersection
LOS	B	B	B	B	B

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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DELAY (AVERAGE)

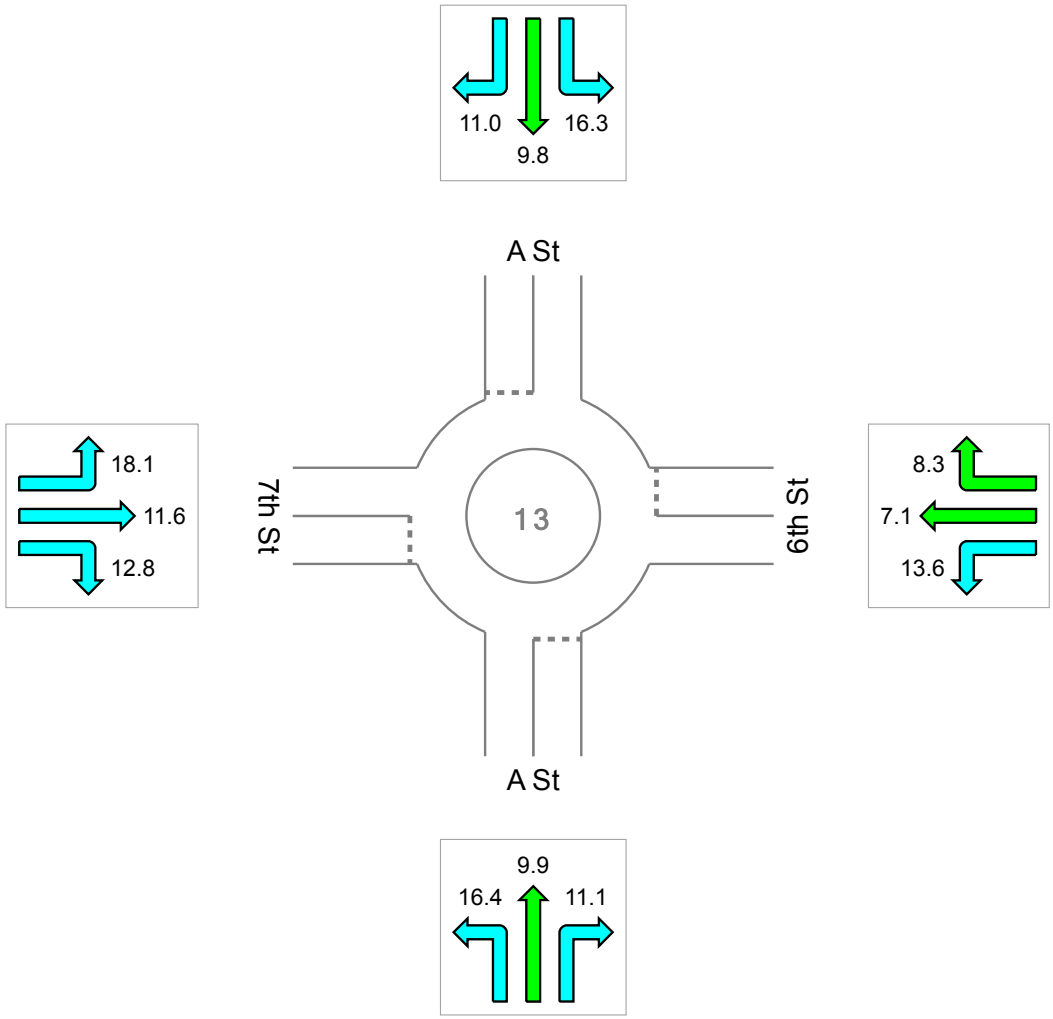
Average control delay per vehicle, or average pedestrian delay (seconds)

Site: A St & 7th St-2040wp-am

2040 Without-Project AM Peak Hour
Roundabout

All Movement Classes

	South	East	North	West	Intersection
Delay (Average)	11.2	10.8	14.5	13.9	12.1
LOS	B	B	B	B	B



Colour code based on Level of Service

LOS A | LOS B | LOS C | LOS D | LOS E | LOS F | Continuous

Level of Service Method: Delay & v/c (HCM 2010)
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Roundabout Level of Service Method: Same as Signalised Intersections
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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SIDRA INTERSECTION 6

INTERSECTION SUMMARY

Site: A St & 7th St-2040wp-am

2040 Without-Project AM Peak Hour
Roundabout

Intersection Performance - Hourly Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	1260	veh/h	1512	pers/h
Percent Heavy Vehicles (Demand)	2.0	%		
Degree of Saturation	0.473			
Practical Spare Capacity	79.6	%		
Effective Intersection Capacity	2663	veh/h		
Control Delay (Total)	4.22	veh-h/h	5.07	pers-h/h
Control Delay (Average)	12.1	sec	12.1	sec
Control Delay (Worst Lane)	14.5	sec		
Control Delay (Worst Movement)	18.1	sec	18.1	sec
Geometric Delay (Average)	10.0	sec		
Stop-Line Delay (Average)	2.1	sec		
Idling Time (Average)	0.2	sec		
Intersection Level of Service (LOS)	LOS B			
95% Back of Queue - Vehicles (Worst Lane)	3.5	veh		
95% Back of Queue - Distance (Worst Lane)	88.7	ft		
Queue Storage Ratio (Worst Lane)	0.39			
Total Effective Stops	861	veh/h	1034	pers/h
Effective Stop Rate	0.68	per veh	0.68	per pers
Proportion Queued	0.49		0.49	
Performance Index	38.1		38.1	
Travel Distance (Total)	228.3	veh-mi/h	274.0	pers-mi/h
Travel Distance (Average)	957	ft	957	ft
Travel Time (Total)	10.1	veh-h/h	12.1	pers-h/h
Travel Time (Average)	28.9	sec	28.9	sec
Travel Speed	22.6	mph	22.6	mph
Cost (Total)	175.88	$/h	175.88	$/h
Fuel Consumption (Total)	7.2	gal/h		
Carbon Dioxide (Total)	64.0	kg/h		
Hydrocarbons (Total)	0.027	kg/h		
Carbon Monoxide (Total)	0.197	kg/h		
NOx (Total)	0.149	kg/h		

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Signalised Intersections.
Intersection LOS value for Vehicles is based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	604,800	veh/y	725,760	pers/y
Delay	2,027	veh-h/y	2,432	pers-h/y
Effective Stops	413,446	veh/y	496,135	pers/y
Travel Distance	109,586	veh-mi/y	131,503	pers-mi/y
Travel Time	4,855	veh-h/y	5,826	pers-h/y
Cost	84,422	$/y	84,422	$/y
Fuel Consumption	3,447	gal/y		
Carbon Dioxide	30,737	kg/y		
Hydrocarbons	13	kg/y		
Carbon Monoxide	95	kg/y		
NOx	71	kg/y		

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MOVEMENT SUMMARY

Site: A St & 7th St-2040wp-am

2040 Without-Project AM Peak Hour
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: A St											
3	L2	13	2.0	0.473	16.4	LOS B	3.5	88.7	0.69	1.47	22.6
8	T1	13	2.0	0.473	9.9	LOS A	3.5	88.7	0.69	1.47	22.6
18	R2	357	2.0	0.473	11.1	LOS B	3.5	88.7	0.69	1.47	22.6
Approach		382	2.0	0.473	11.2	LOS B	3.5	88.7	0.69	0.73	22.6
East: 6th St											
1	L2	240	2.0	0.379	13.6	LOS B	3.0	77.1	0.23	1.18	23.8
6	T1	21	2.0	0.379	7.1	LOS A	3.0	77.1	0.23	1.18	23.8
16	R2	232	2.0	0.379	8.3	LOS A	3.0	77.1	0.23	1.18	23.8
Approach		493	2.0	0.379	10.8	LOS B	3.0	77.1	0.23	0.59	23.8
North: A St											
7	L2	253	2.0	0.423	16.3	LOS B	2.8	72.3	0.63	1.51	21.1
4	T1	86	2.0	0.423	9.8	LOS A	2.8	72.3	0.63	1.51	21.1
14	R2	11	2.0	0.423	11.0	LOS B	2.8	72.3	0.63	1.51	21.1
Approach		349	2.0	0.423	14.5	LOS B	2.8	72.3	0.63	0.76	21.1
West: 7th St											
5	L2	11	2.0	0.061	18.1	LOS B	0.3	8.2	0.67	1.48	21.2
2	T1	13	2.0	0.061	11.6	LOS B	0.3	8.2	0.67	1.48	21.2
12	R2	13	2.0	0.061	12.8	LOS B	0.3	8.2	0.67	1.48	21.2
Approach		36	2.0	0.061	13.9	LOS B	0.3	8.2	0.67	0.74	21.2
All Vehicles		1260	2.0	0.473	12.1	LOS B	3.5	88.7	0.49	0.68	22.6

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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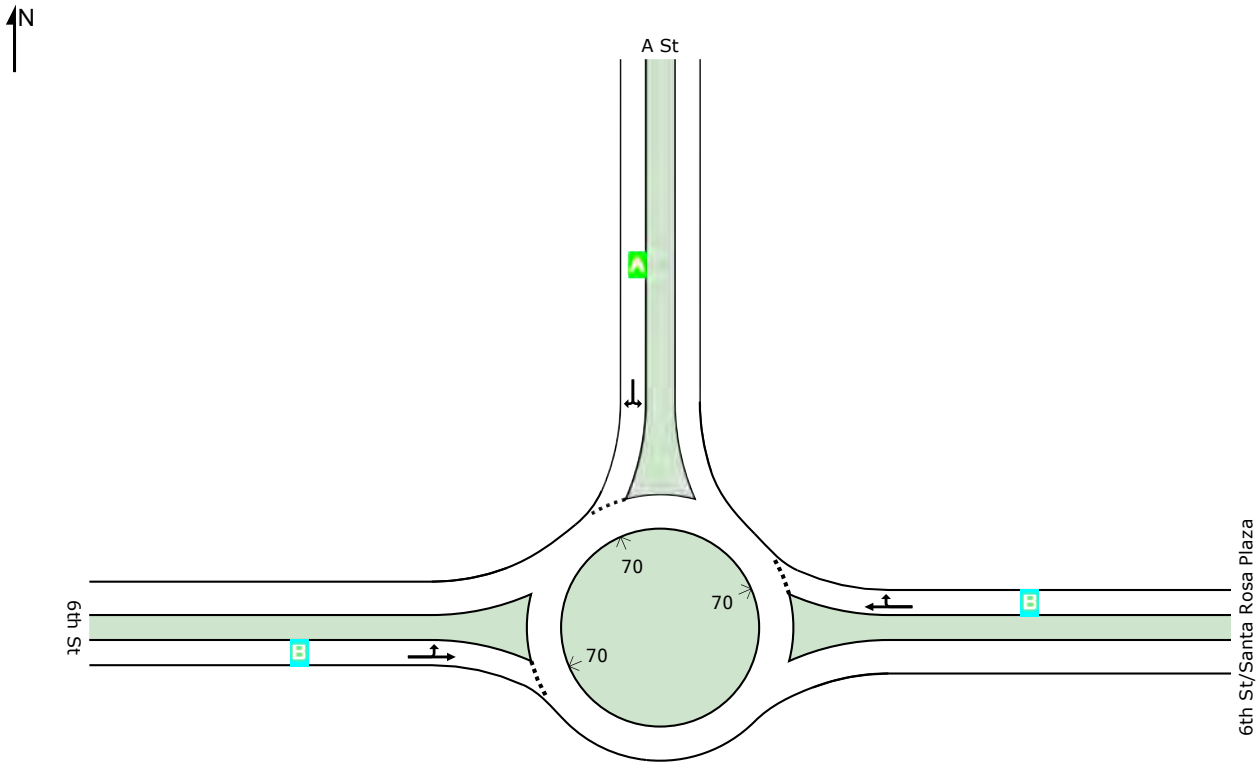
SIDRA INTERSECTION 6

LEVEL OF SERVICE

Site: A St & 6th St/Santa Rosa Plaza-2040wp-am

2040 Without-Project AM Peak Hour
Roundabout



	East	North	West	Intersection
LOS	B	A	B	B

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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SIDRA INTERSECTION 6

DELAY (AVERAGE)

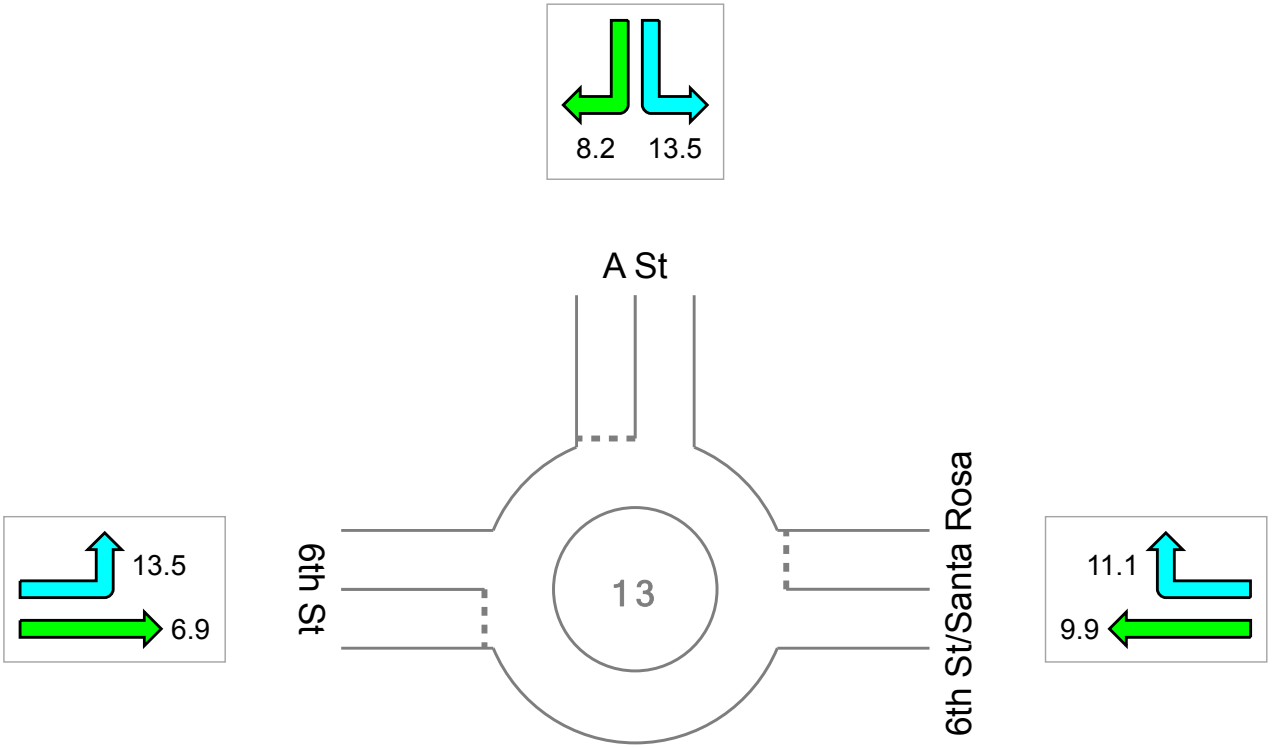
Average control delay per vehicle, or average pedestrian delay (seconds)

Site: A St & 6th St/Santa Rosa Plaza-2040wp-am

2040 Without-Project AM Peak Hour
Roundabout

All Movement Classes

	East	North	West	Intersection
Delay (Average)	10.3	8.5	12.7	10.8
LOS	B	A	B	B



Colour code based on Level of Service

LOS A | LOS B | LOS C | LOS D | LOS E | LOS F | Continuous

Level of Service Method: Delay & v/c (HCM 2010)
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Roundabout Level of Service Method: Same as Signalised Intersections
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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SIDRA INTERSECTION 6

INTERSECTION SUMMARY

Site: A St & 6th St/Santa Rosa Plaza-2040wp-am

2040 Without-Project AM Peak Hour
Roundabout

Intersection Performance - Hourly Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	844	veh/h	1013	pers/h
Percent Heavy Vehicles (Demand)	2.0	%		
Degree of Saturation	0.323			
Practical Spare Capacity	163.1	%		
Effective Intersection Capacity	2613	veh/h		
Control Delay (Total)	2.53	veh-h/h	3.04	pers-h/h
Control Delay (Average)	10.8	sec	10.8	sec
Control Delay (Worst Lane)	12.7	sec		
Control Delay (Worst Movement)	13.5	sec	13.5	sec
Geometric Delay (Average)	10.4	sec		
Stop-Line Delay (Average)	0.4	sec		
Idling Time (Average)	0.0	sec		
Intersection Level of Service (LOS)	LOS B			
95% Back of Queue - Vehicles (Worst Lane)	2.3	veh		
95% Back of Queue - Distance (Worst Lane)	57.3	ft		
Queue Storage Ratio (Worst Lane)	0.25			
Total Effective Stops	506	veh/h	607	pers/h
Effective Stop Rate	0.60	per veh	0.60	per pers
Proportion Queued	0.19		0.19	
Performance Index	16.5		16.5	
Travel Distance (Total)	151.1	veh-mi/h	181.3	pers-mi/h
Travel Distance (Average)	945	ft	945	ft
Travel Time (Total)	6.4	veh-h/h	7.7	pers-h/h
Travel Time (Average)	27.5	sec	27.5	sec
Travel Speed	23.4	mph	23.4	mph
Cost (Total)	113.07	$/h	113.07	$/h
Fuel Consumption (Total)	4.7	gal/h		
Carbon Dioxide (Total)	41.8	kg/h		
Hydrocarbons (Total)	0.017	kg/h		
Carbon Monoxide (Total)	0.128	kg/h		
NOx (Total)	0.099	kg/h		

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Signalised Intersections.
Intersection LOS value for Vehicles is based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	405,221	veh/y	486,265	pers/y
Delay	1,217	veh-h/y	1,460	pers-h/y
Effective Stops	242,765	veh/y	291,317	pers/y
Travel Distance	72,521	veh-mi/y	87,026	pers-mi/y
Travel Time	3,095	veh-h/y	3,714	pers-h/y
Cost	54,272	$/y	54,272	$/y
Fuel Consumption	2,251	gal/y		
Carbon Dioxide	20,069	kg/y		
Hydrocarbons	8	kg/y		
Carbon Monoxide	61	kg/y		
NOx	47	kg/y		

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MOVEMENT SUMMARY

Site: A St & 6th St/Santa Rosa Plaza-2040wp-am

2040 Without-Project AM Peak Hour
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
East: 6th St/Santa Rosa Plaza											
6	T1	32	2.0	0.072	9.9	LOS A	0.4	9.2	0.55	1.29	24.2
16	R2	21	2.0	0.072	11.1	LOS B	0.4	9.2	0.55	1.29	24.2
Approach		53	2.0	0.072	10.3	LOS B	0.4	9.2	0.55	0.64	24.2
North: A St											
7	L2	21	2.0	0.271	13.5	LOS B	1.9	49.3	0.19	1.06	24.9
14	R2	327	2.0	0.271	8.2	LOS A	1.9	49.3	0.19	1.06	24.9
Approach		348	2.0	0.271	8.5	LOS A	1.9	49.3	0.19	0.53	24.9
West: 6th St											
5	L2	391	2.0	0.323	13.5	LOS B	2.3	57.3	0.14	1.30	22.4
2	T1	53	2.0	0.323	6.9	LOS A	2.3	57.3	0.14	1.30	22.4
Approach		443	2.0	0.323	12.7	LOS B	2.3	57.3	0.14	0.65	22.4
All Vehicles		844	2.0	0.323	10.8	LOS B	2.3	57.3	0.19	0.60	23.4

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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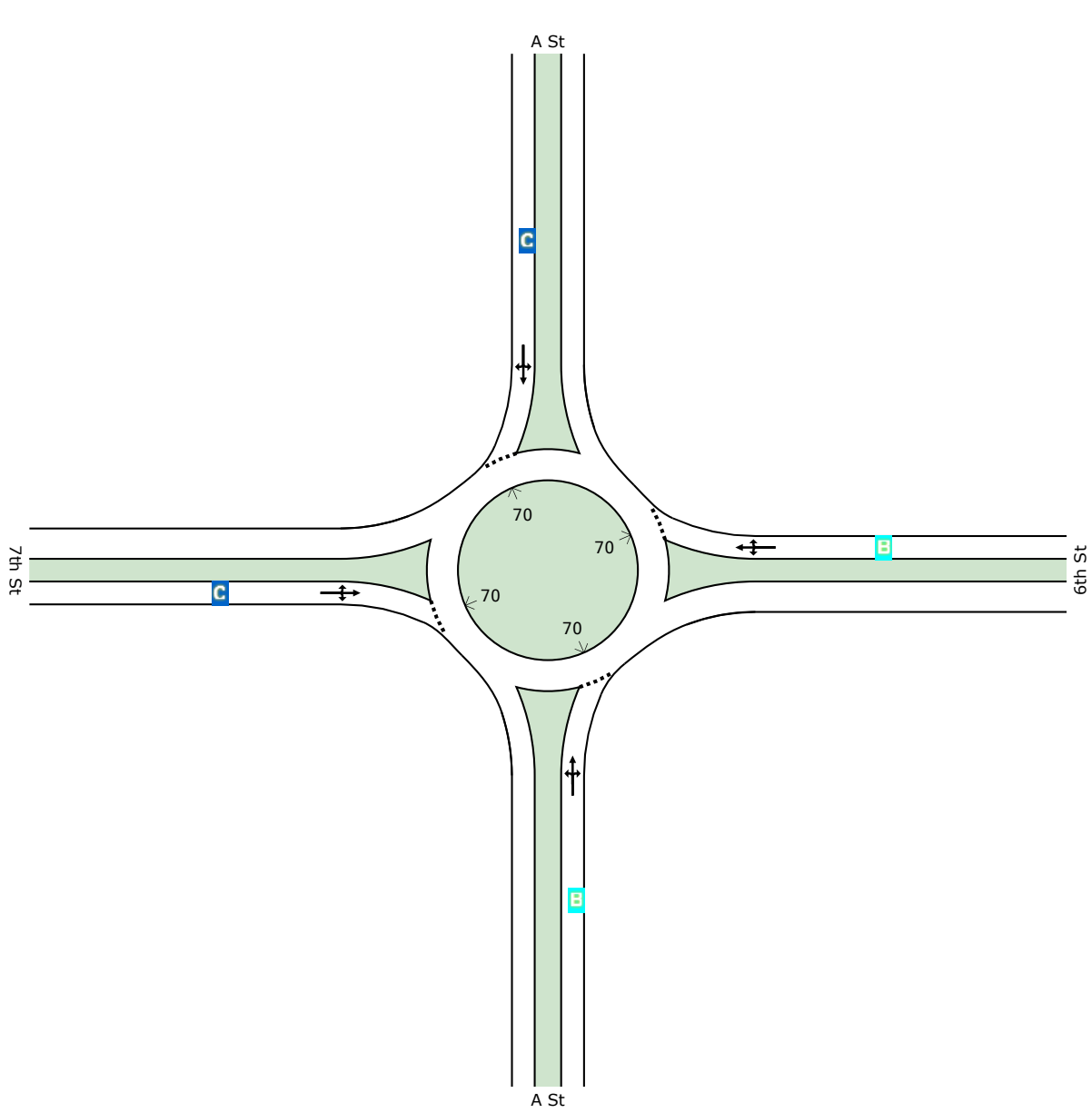
SIDRA INTERSECTION 6

LEVEL OF SERVICE

Site: A St & 7th St-2040wp-pm

2040 Without-Project AM Peak Hour
Roundabout



	South	East	North	West	Intersection
LOS	B	B	C	C	B

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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DELAY (AVERAGE)

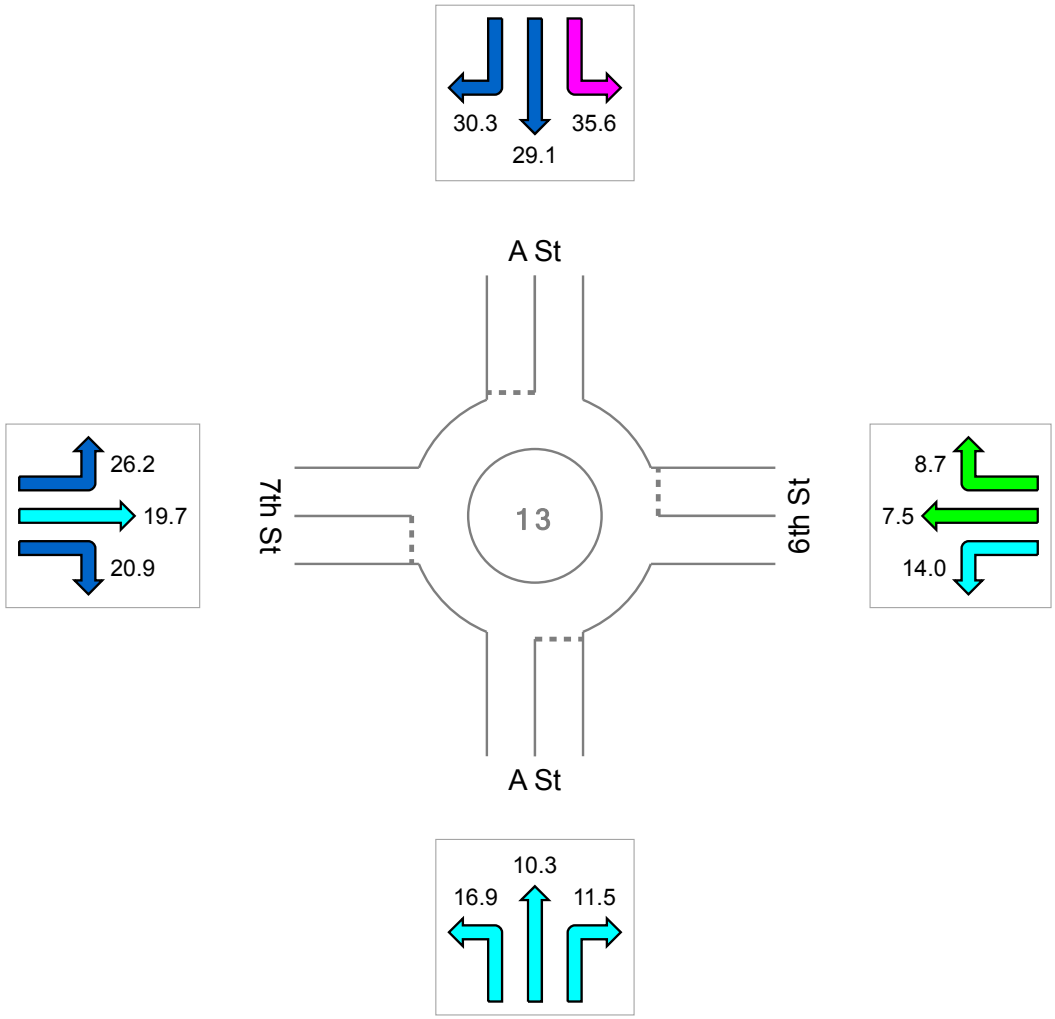
Average control delay per vehicle, or average pedestrian delay (seconds)

Site: A St & 7th St-2040wp-pm

2040 Without-Project AM Peak Hour
Roundabout

All Movement Classes

	South	East	North	West	Intersection
Delay (Average)	11.7	12.3	33.4	21.7	18.0
LOS	B	B	C	C	B



Colour code based on Level of Service

LOS A | LOS B | LOS C | LOS D | LOS E | LOS F | Continuous

Level of Service Method: Delay & v/c (HCM 2010)
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Roundabout Level of Service Method: Same as Signalised Intersections
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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SIDRA INTERSECTION 6

INTERSECTION SUMMARY

Site: A St & 7th St-2040wp-pm

2040 Without-Project AM Peak Hour
Roundabout

Intersection Performance - Hourly Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	1713	veh/h	2055	pers/h
Percent Heavy Vehicles (Demand)	2.0	%		
Degree of Saturation	0.821			
Practical Spare Capacity	3.5	%		
Effective Intersection Capacity	2086	veh/h		
Control Delay (Total)	8.55	veh-h/h	10.26	pers-h/h
Control Delay (Average)	18.0	sec	18.0	sec
Control Delay (Worst Lane)	33.4	sec		
Control Delay (Worst Movement)	35.6	sec	35.6	sec
Geometric Delay (Average)	10.7	sec		
Stop-Line Delay (Average)	7.3	sec		
Idling Time (Average)	3.5	sec		
Intersection Level of Service (LOS)	LOS B			
95% Back of Queue - Vehicles (Worst Lane)	11.5	veh		
95% Back of Queue - Distance (Worst Lane)	292.9	ft		
Queue Storage Ratio (Worst Lane)	1.29			
Total Effective Stops	1370	veh/h	1644	pers/h
Effective Stop Rate	0.80	per veh	0.80	per pers
Proportion Queued	0.67		0.67	
Performance Index	84.1		84.1	
Travel Distance (Total)	317.3	veh-mi/h	380.8	pers-mi/h
Travel Distance (Average)	978	ft	978	ft
Travel Time (Total)	16.8	veh-h/h	20.2	pers-h/h
Travel Time (Average)	35.4	sec	35.4	sec
Travel Speed	18.8	mph	18.8	mph
Cost (Total)	283.50	$/h	283.50	$/h
Fuel Consumption (Total)	10.9	gal/h		
Carbon Dioxide (Total)	96.8	kg/h		
Hydrocarbons (Total)	0.044	kg/h		
Carbon Monoxide (Total)	0.303	kg/h		
NOx (Total)	0.208	kg/h		

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Signalised Intersections.
Intersection LOS value for Vehicles is based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	822,063	veh/y	986,476	pers/y
Delay	4,102	veh-h/y	4,923	pers-h/y
Effective Stops	657,778	veh/y	789,333	pers/y
Travel Distance	152,324	veh-mi/y	182,789	pers-mi/y
Travel Time	8,082	veh-h/y	9,699	pers-h/y
Cost	136,080	$/y	136,080	$/y
Fuel Consumption	5,210	gal/y		
Carbon Dioxide	46,455	kg/y		
Hydrocarbons	21	kg/y		
Carbon Monoxide	145	kg/y		
NOx	100	kg/y		

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MOVEMENT SUMMARY

Site: A St & 7th St-2040wp-pm

2040 Without-Project AM Peak Hour
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: A St											
3	L2	15	2.0	0.463	16.9	LOS B	3.4	87.4	0.74	1.55	22.3
8	T1	25	2.0	0.463	10.3	LOS B	3.4	87.4	0.74	1.55	22.3
18	R2	300	2.0	0.463	11.5	LOS B	3.4	87.4	0.74	1.55	22.3
Approach		340	2.0	0.463	11.7	LOS B	3.4	87.4	0.74	0.77	22.3
East: 6th St											
1	L2	602	2.0	0.674	14.0	LOS B	9.0	228.0	0.45	1.14	22.5
6	T1	21	2.0	0.674	7.5	LOS A	9.0	228.0	0.45	1.14	22.5
16	R2	253	2.0	0.674	8.7	LOS A	9.0	228.0	0.45	1.14	22.5
Approach		876	2.0	0.674	12.3	LOS B	9.0	228.0	0.45	0.57	22.5
North: A St											
7	L2	295	2.0	0.821	35.6	LOS D	11.5	292.9	1.00	2.51	13.1
4	T1	141	2.0	0.821	29.1	LOS C	11.5	292.9	1.00	2.51	13.1
14	R2	11	2.0	0.821	30.3	LOS C	11.5	292.9	1.00	2.51	13.1
Approach		446	2.0	0.821	33.4	LOS C	11.5	292.9	1.00	1.25	13.1
West: 7th St											
5	L2	11	2.0	0.154	26.2	LOS C	0.9	23.3	0.88	1.86	16.7
2	T1	15	2.0	0.154	19.7	LOS B	0.9	23.3	0.88	1.86	16.7
12	R2	25	2.0	0.154	20.9	LOS C	0.9	23.3	0.88	1.86	16.7
Approach		51	2.0	0.154	21.7	LOS C	0.9	23.3	0.88	0.93	16.7
All Vehicles		1713	2.0	0.821	18.0	LOS B	11.5	292.9	0.67	0.80	18.8

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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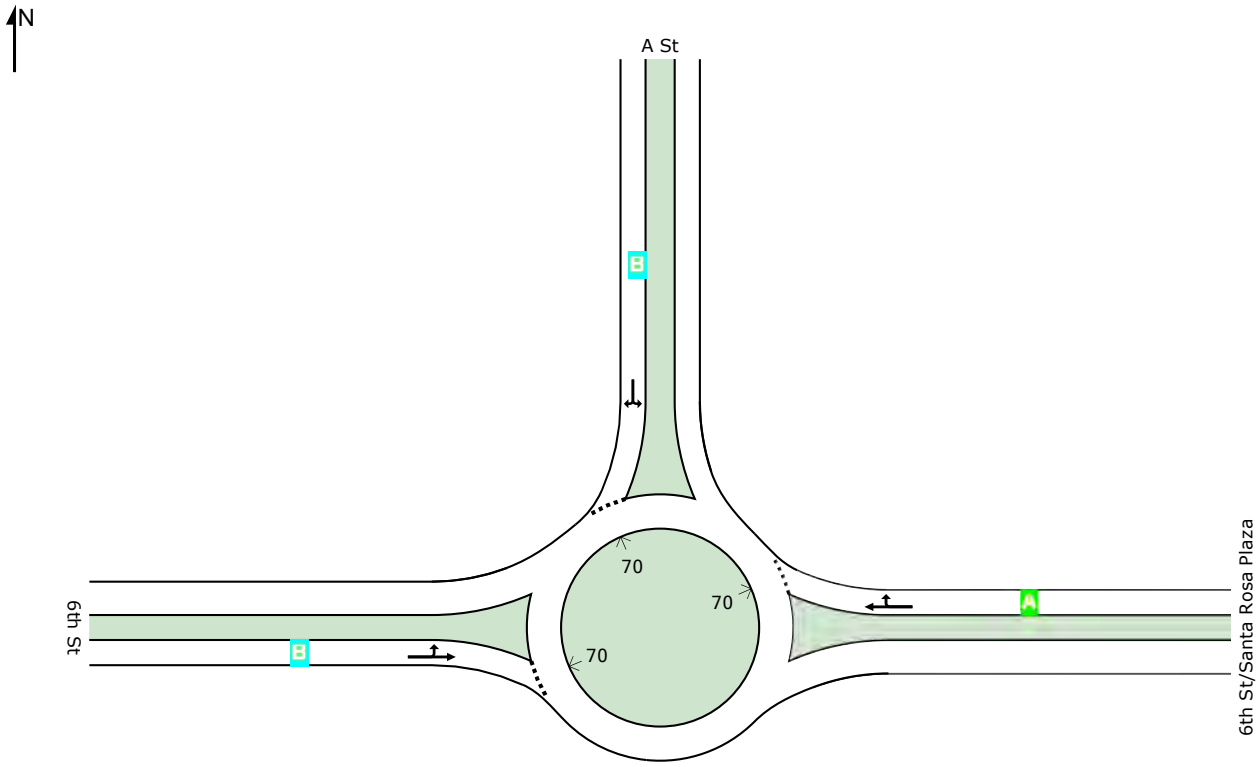
SIDRA INTERSECTION 6

LEVEL OF SERVICE

Site: A St & 6th St/Santa Rosa Plaza-2040wp-pm

2040 Without-Project AM Peak Hour
Roundabout



	East	North	West	Intersection
LOS	A	B	B	B

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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SIDRA INTERSECTION 6

DELAY (AVERAGE)

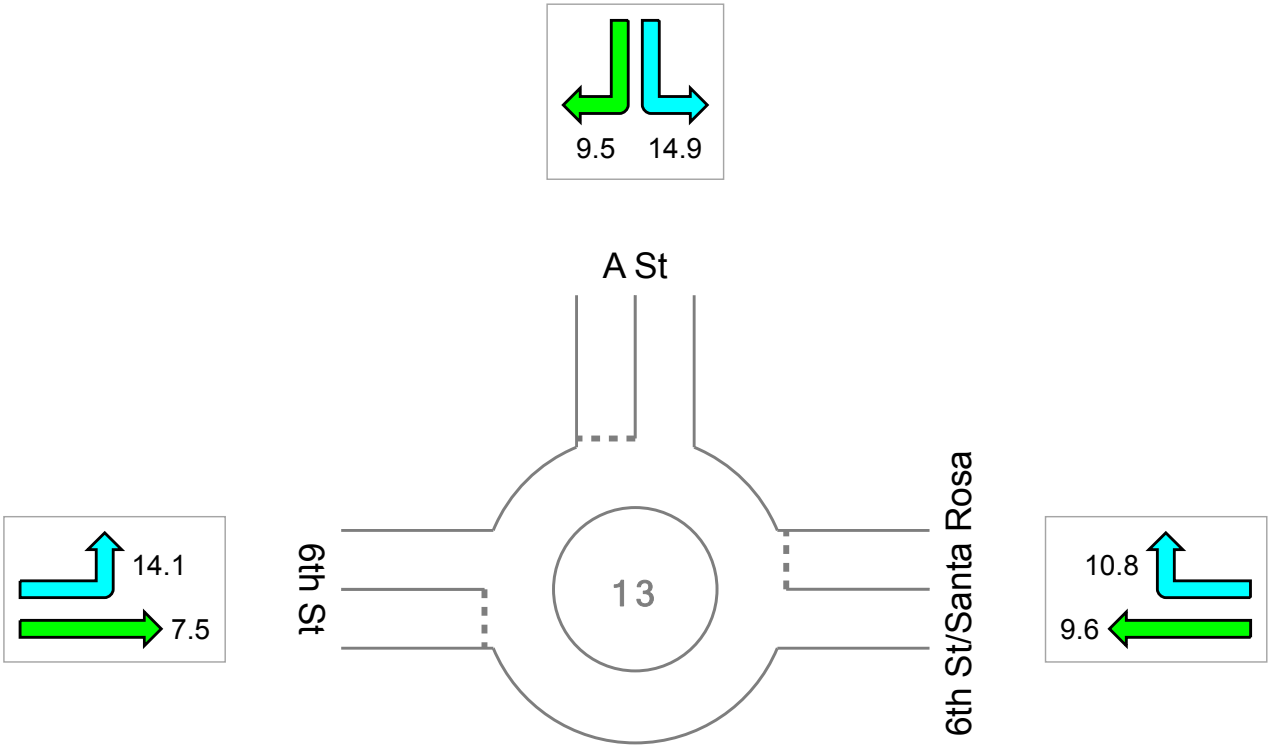
Average control delay per vehicle, or average pedestrian delay (seconds)

Site: A St & 6th St/Santa Rosa Plaza-2040wp-pm

2040 Without-Project AM Peak Hour
Roundabout

All Movement Classes

	East	North	West	Intersection
Delay (Average)	9.8	10.1	12.6	10.9
LOS	A	B	B	B



Colour code based on Level of Service

LOS A | LOS B | LOS C | LOS D | LOS E | LOS F | Continuous

Level of Service Method: Delay & v/c (HCM 2010)
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Roundabout Level of Service Method: Same as Signalised Intersections
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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SIDRA INTERSECTION 6

INTERSECTION SUMMARY

Site: A St & 6th St/Santa Rosa Plaza-2040wp-pm

2040 Without-Project AM Peak Hour
Roundabout

Intersection Performance - Hourly Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	1328	veh/h	1594	pers/h
Percent Heavy Vehicles (Demand)	2.0	%		
Degree of Saturation	0.683			
Practical Spare Capacity	24.5	%		
Effective Intersection Capacity	1946	veh/h		
Control Delay (Total)	4.01	veh-h/h	4.81	pers-h/h
Control Delay (Average)	10.9	sec	10.9	sec
Control Delay (Worst Lane)	12.6	sec		
Control Delay (Worst Movement)	14.9	sec	14.9	sec
Geometric Delay (Average)	9.4	sec		
Stop-Line Delay (Average)	1.5	sec		
Idling Time (Average)	0.0	sec		
Intersection Level of Service (LOS)	LOS B			
95% Back of Queue - Vehicles (Worst Lane)	8.2	veh		
95% Back of Queue - Distance (Worst Lane)	207.4	ft		
Queue Storage Ratio (Worst Lane)	0.91			
Total Effective Stops	804	veh/h	965	pers/h
Effective Stop Rate	0.61	per veh	0.61	per pers
Proportion Queued	0.55		0.55	
Performance Index	33.7		33.7	
Travel Distance (Total)	233.6	veh-mi/h	280.4	pers-mi/h
Travel Distance (Average)	929	ft	929	ft
Travel Time (Total)	10.3	veh-h/h	12.4	pers-h/h
Travel Time (Average)	28.0	sec	28.0	sec
Travel Speed	22.6	mph	22.6	mph
Cost (Total)	180.70	$/h	180.70	$/h
Fuel Consumption (Total)	7.4	gal/h		
Carbon Dioxide (Total)	66.2	kg/h		
Hydrocarbons (Total)	0.027	kg/h		
Carbon Monoxide (Total)	0.203	kg/h		
NOx (Total)	0.156	kg/h		

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Signalised Intersections.
Intersection LOS value for Vehicles is based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	637,642	veh/y	765,171	pers/y
Delay	1,924	veh-h/y	2,309	pers-h/y
Effective Stops	386,145	veh/y	463,374	pers/y
Travel Distance	112,152	veh-mi/y	134,582	pers-mi/y
Travel Time	4,963	veh-h/y	5,956	pers-h/y
Cost	86,734	$/y	86,734	$/y
Fuel Consumption	3,562	gal/y		
Carbon Dioxide	31,762	kg/y		
Hydrocarbons	13	kg/y		
Carbon Monoxide	97	kg/y		
NOx	75	kg/y		

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MOVEMENT SUMMARY

Site: A St & 6th St/Santa Rosa Plaza-2040wp-pm

2040 Without-Project AM Peak Hour
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
East: 6th St/Santa Rosa Plaza											
6	T1	105	2.0	0.178	9.6	LOS A	1.0	25.4	0.57	1.32	24.3
16	R2	32	2.0	0.178	10.8	LOS B	1.0	25.4	0.57	1.32	24.3
Approach		137	2.0	0.178	9.8	LOS A	1.0	25.4	0.57	0.66	24.3
North: A St											
7	L2	84	2.0	0.683	14.9	LOS B	8.2	207.4	0.64	1.17	22.6
14	R2	689	2.0	0.683	9.5	LOS A	8.2	207.4	0.64	1.17	22.6
Approach		774	2.0	0.683	10.1	LOS B	8.2	207.4	0.64	0.59	22.6
West: 6th St											
5	L2	323	2.0	0.372	14.1	LOS B	2.9	73.7	0.38	1.25	22.1
2	T1	95	2.0	0.372	7.5	LOS A	2.9	73.7	0.38	1.25	22.1
Approach		418	2.0	0.372	12.6	LOS B	2.9	73.7	0.38	0.63	22.1
All Vehicles		1328	2.0	0.683	10.9	LOS B	8.2	207.4	0.55	0.61	22.6

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
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Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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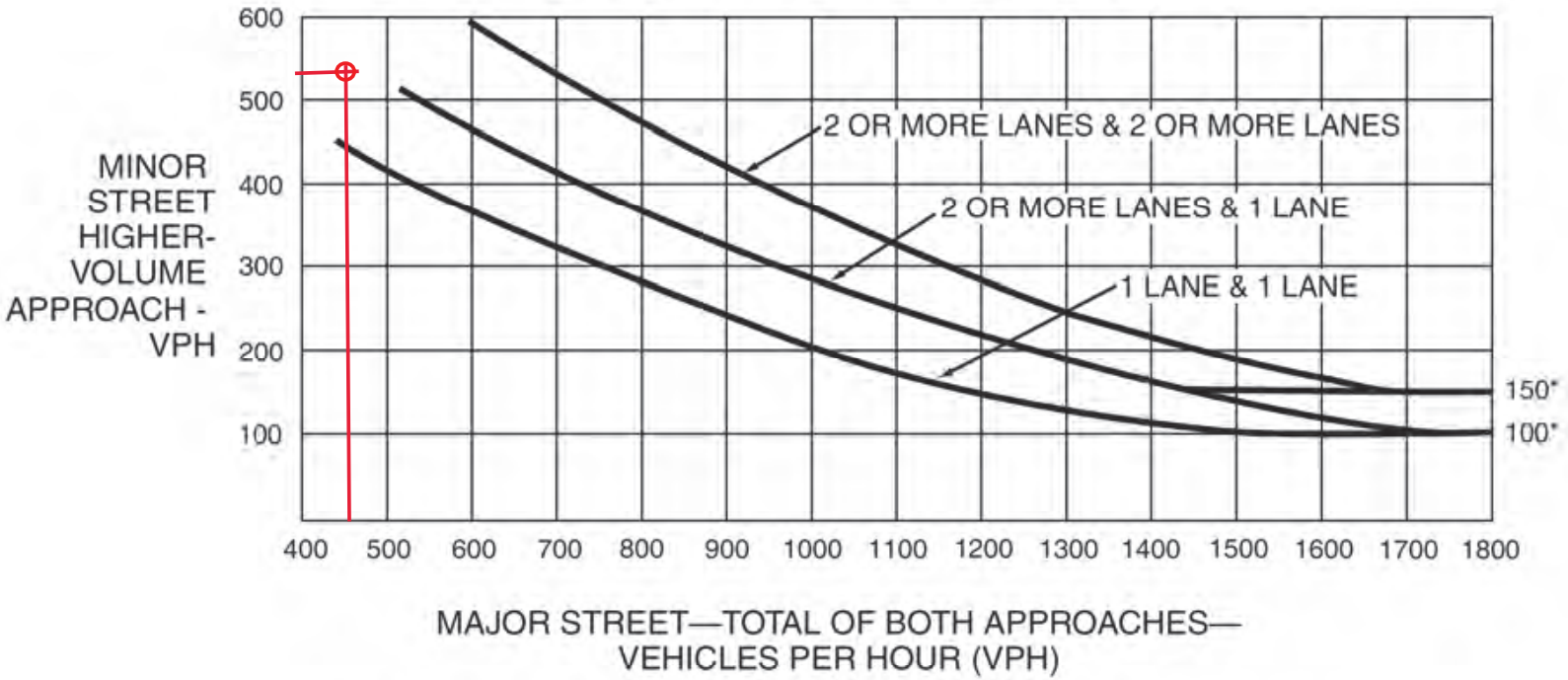
SIDRA INTERSECTION 6

Appendix C SIGNAL WARRANT

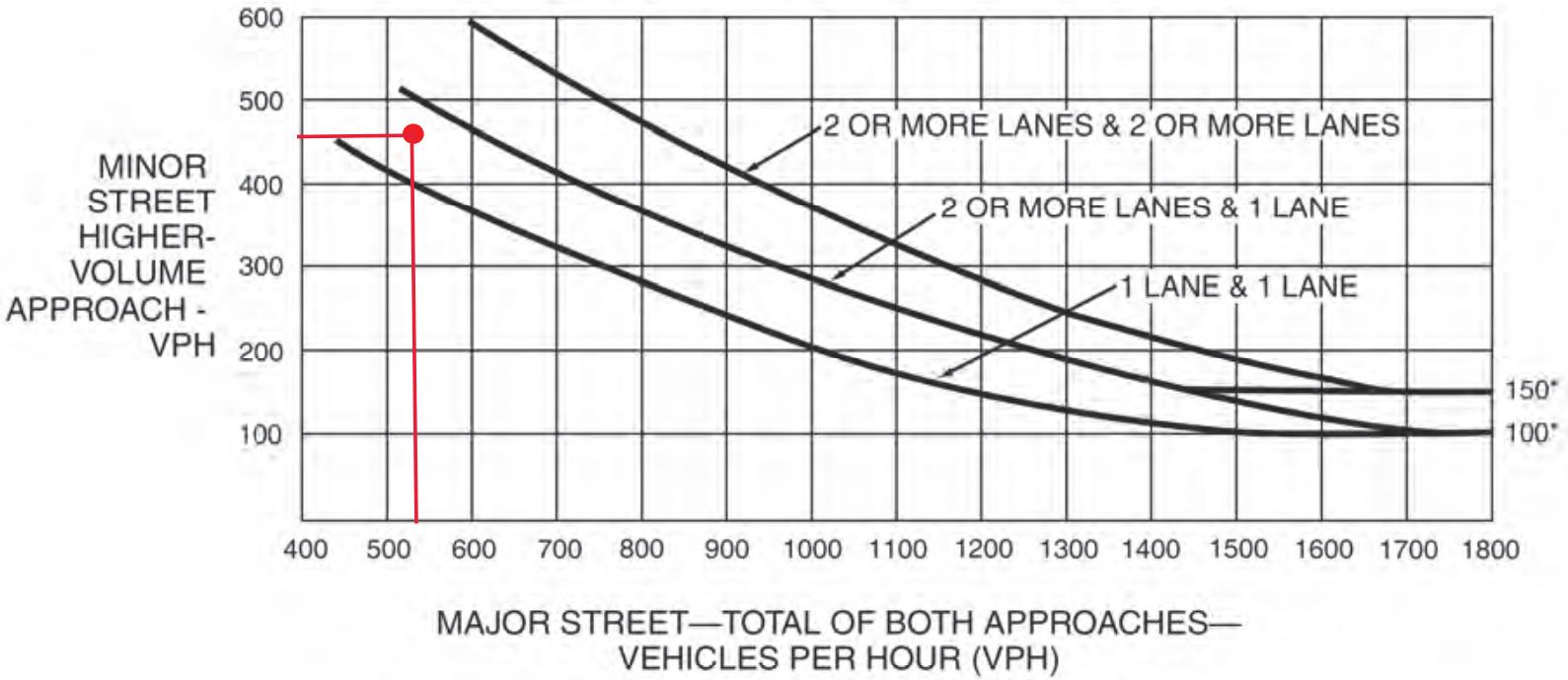
Location	Major Street Speed (mph)	Approach Lanes		AM Peak Hour		PM Peak Hour		Warrant Satisfied?
		Major Street	Minor Street	Major Street Volume	Minor Street Volume	Major Street Volume	Minor Street Volume	
Cumulative Without Project								
1. Morgan St & 9th St	25	1	1	440	530	520	460	Yes
Cumulative With Project								
1. Morgan St & 9th St	25	1	1	459	544	545	470	Yes

Figure 4C-3. Warrant 3, Peak Hour



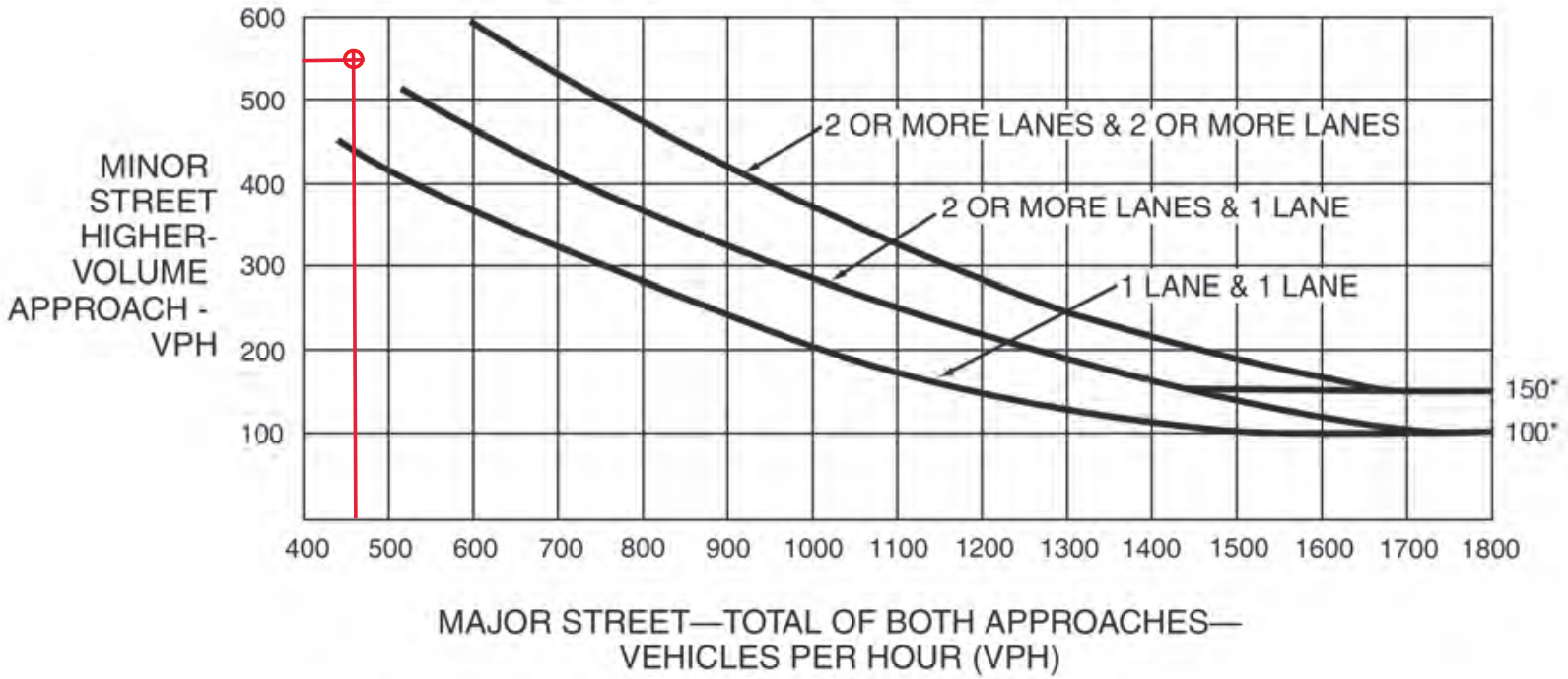
*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-3. Warrant 3, Peak Hour



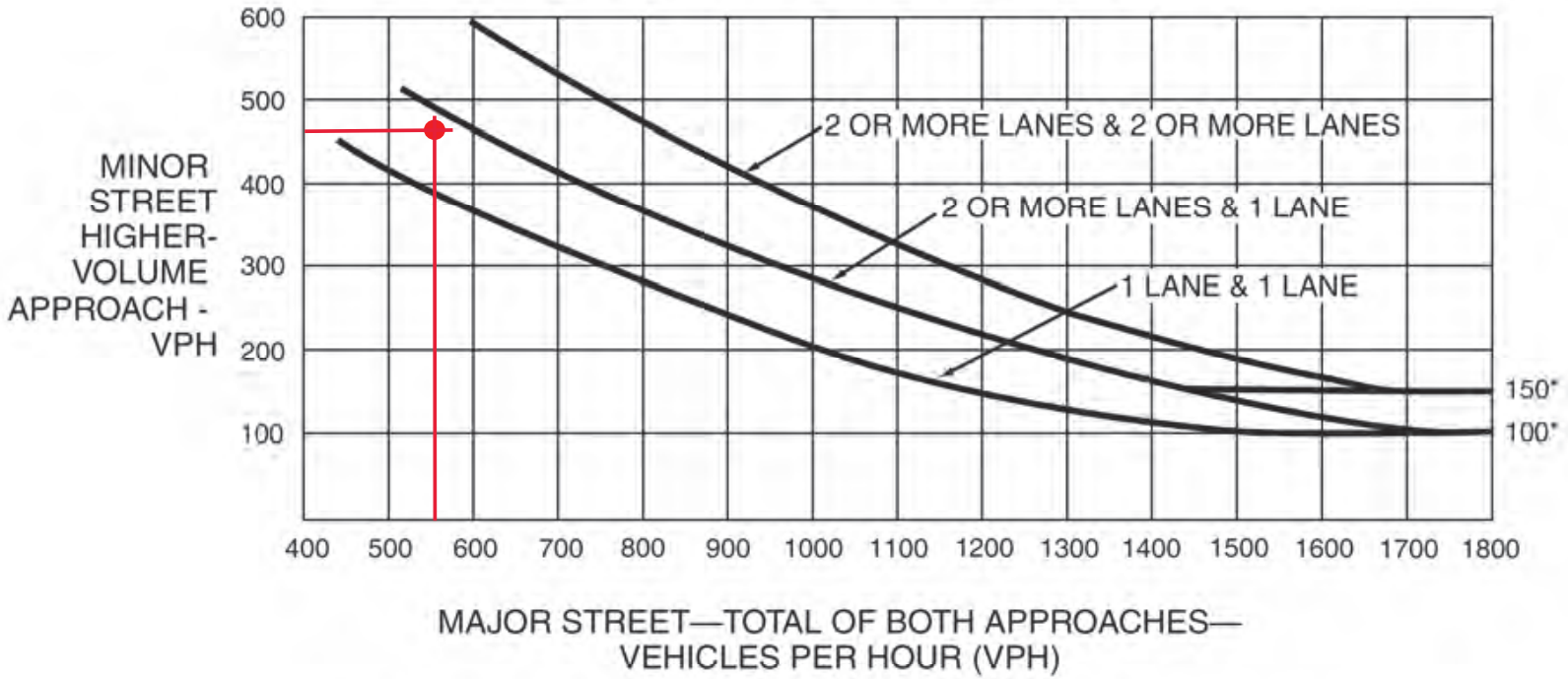
*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-3. Warrant 3, Peak Hour



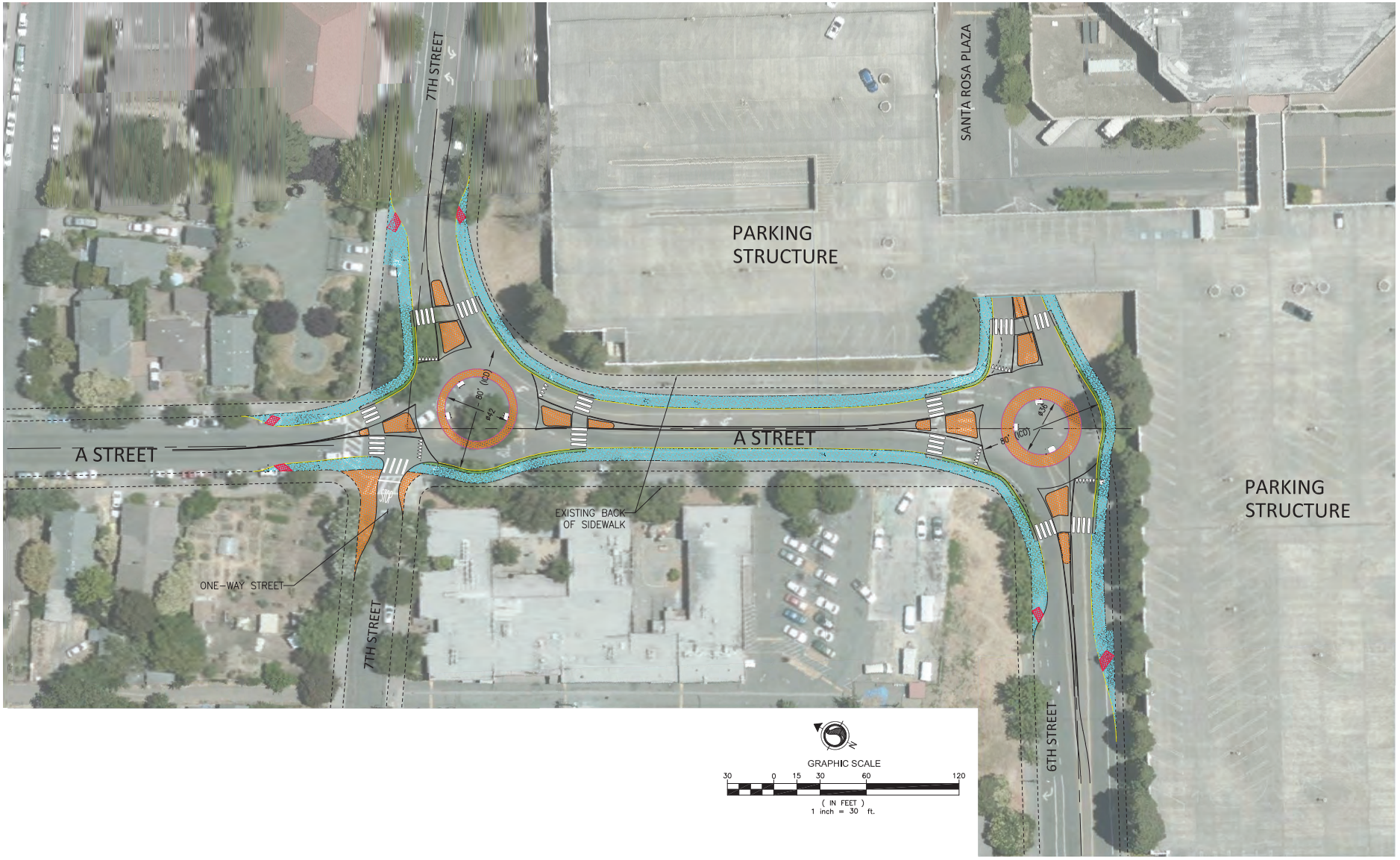
*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Appendix D ROUNDABOUT CONCEPTS



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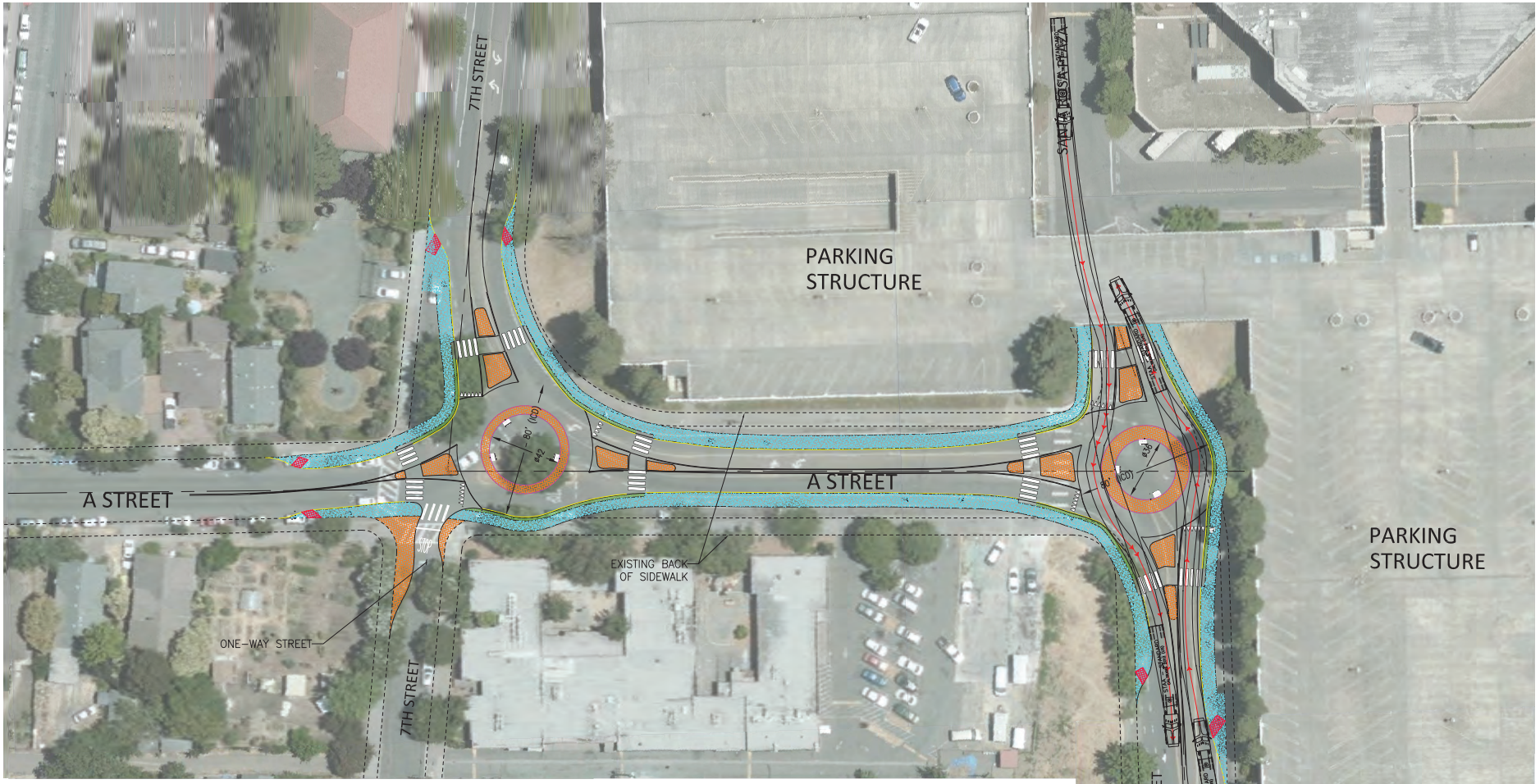
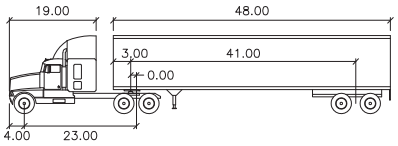
"A" STREET ROUNDABOUT CONCEPTS
WITH ONE-WAY STREET ON 7TH STREET

PROJECT NO.

SHEET 1
OF 8

DRAWING: z:\p--drive\santa rosa\roundabout_exhibits - fire_truck.dwg PLOTTED: 8/29/2019 6:24 PM BY: Pompeo, Vijay

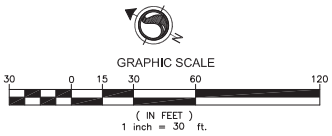




STAA – STANDARD

feet

Tractor Width	: 8.50	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 26.3
Tractor Track	: 8.50	Articulating Angle	: 70.0
Trailer Track	: 8.50		



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"A" STREET ROUNDABOUT CONCEPTS
TRUCK TURN MOVEMENTS
USING STAA STANDARD

PROJECT NO.

SHEET 2 OF 8

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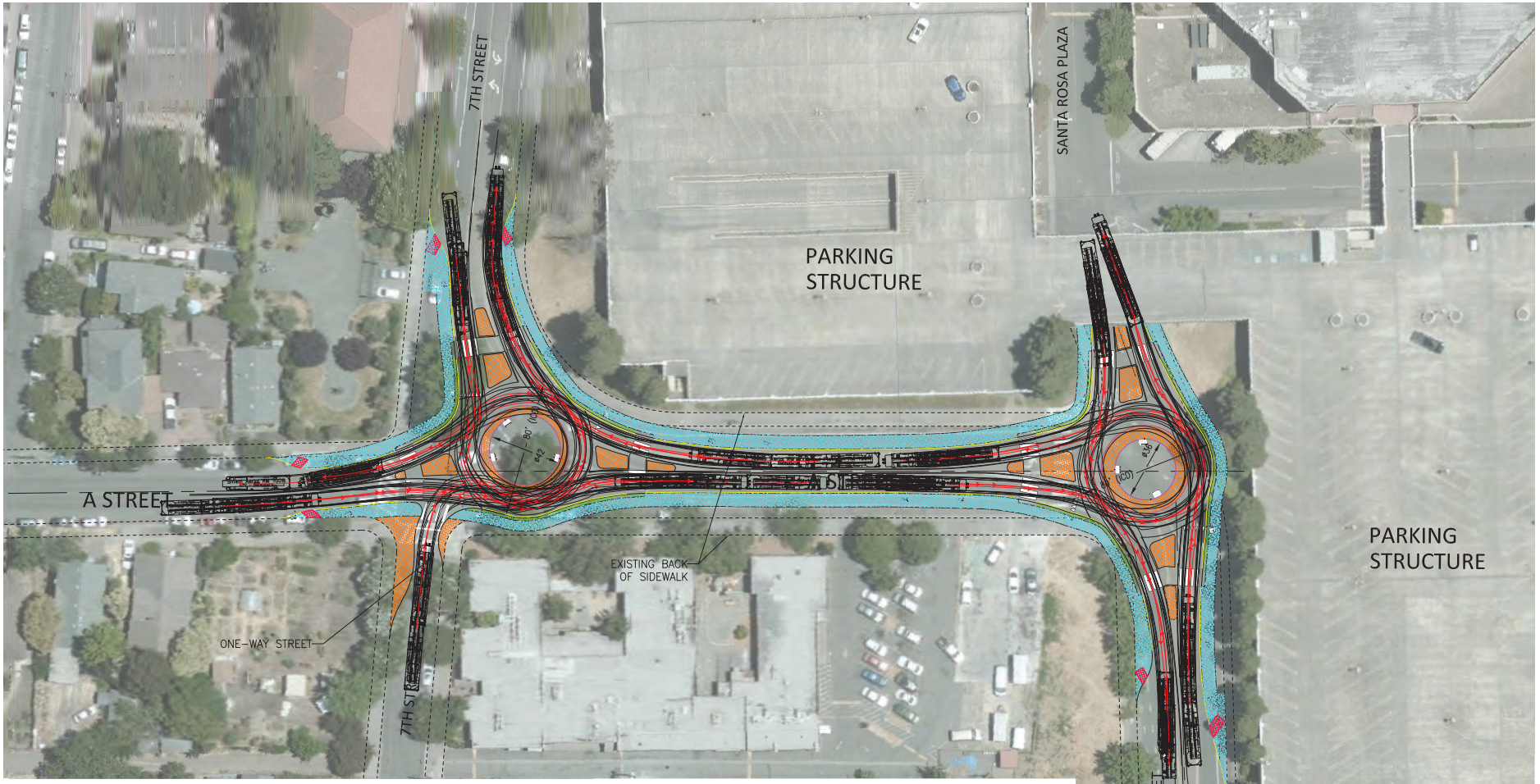
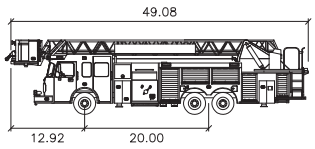
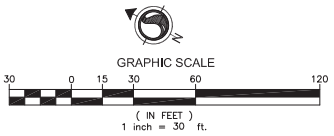




Smeal Platform RM 100ft

	feet
Width	: 8.33
Track	: 7.83
Lock to Lock Time	: 6.0
Steering Angle	: 48.0



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"A" STREET ROUNDABOUT CONCEPTS
TRUCK TURN MOVEMENTS
USING FIRE TRUCK

PROJECT NO.

SHEET 3
OF 8

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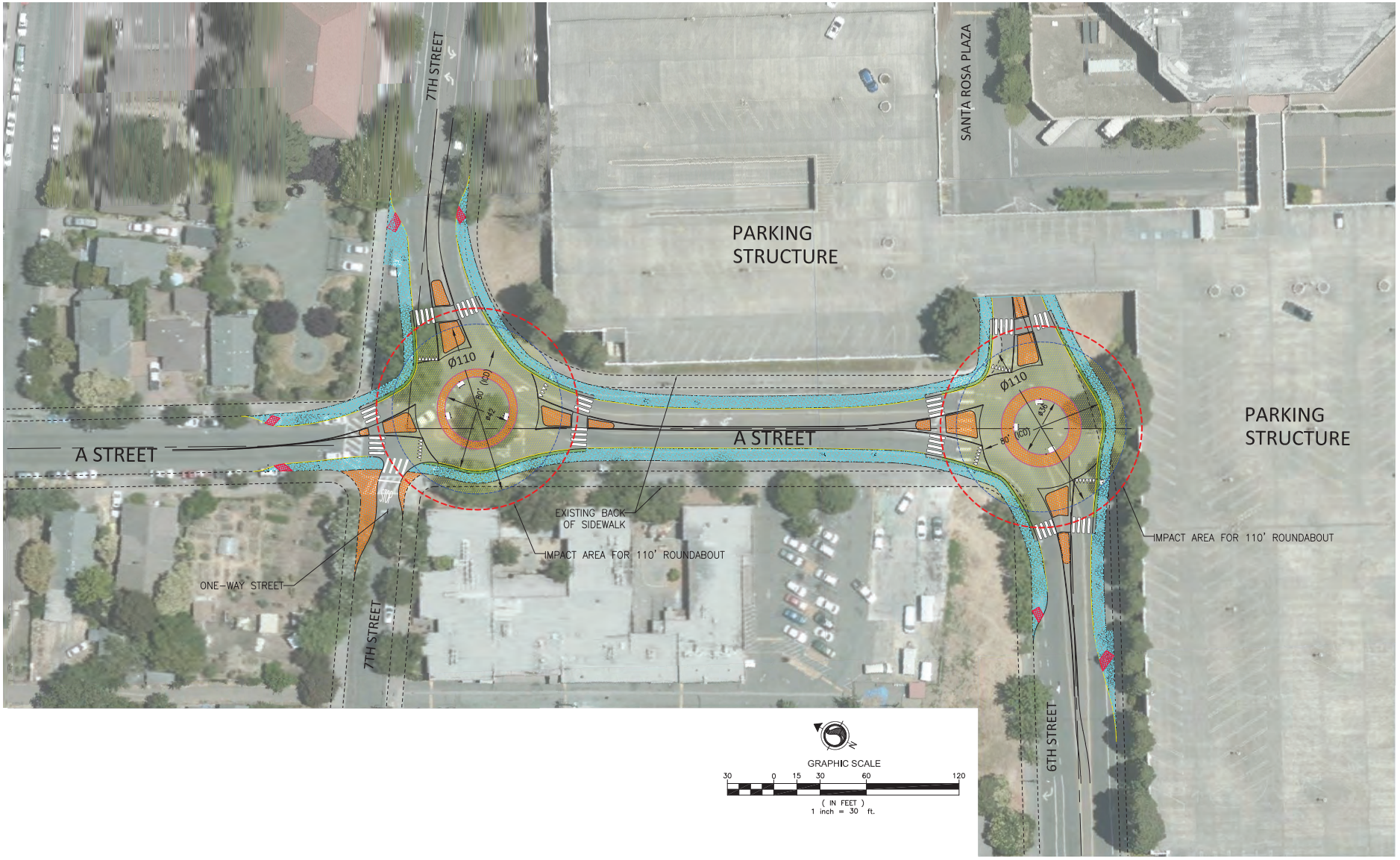

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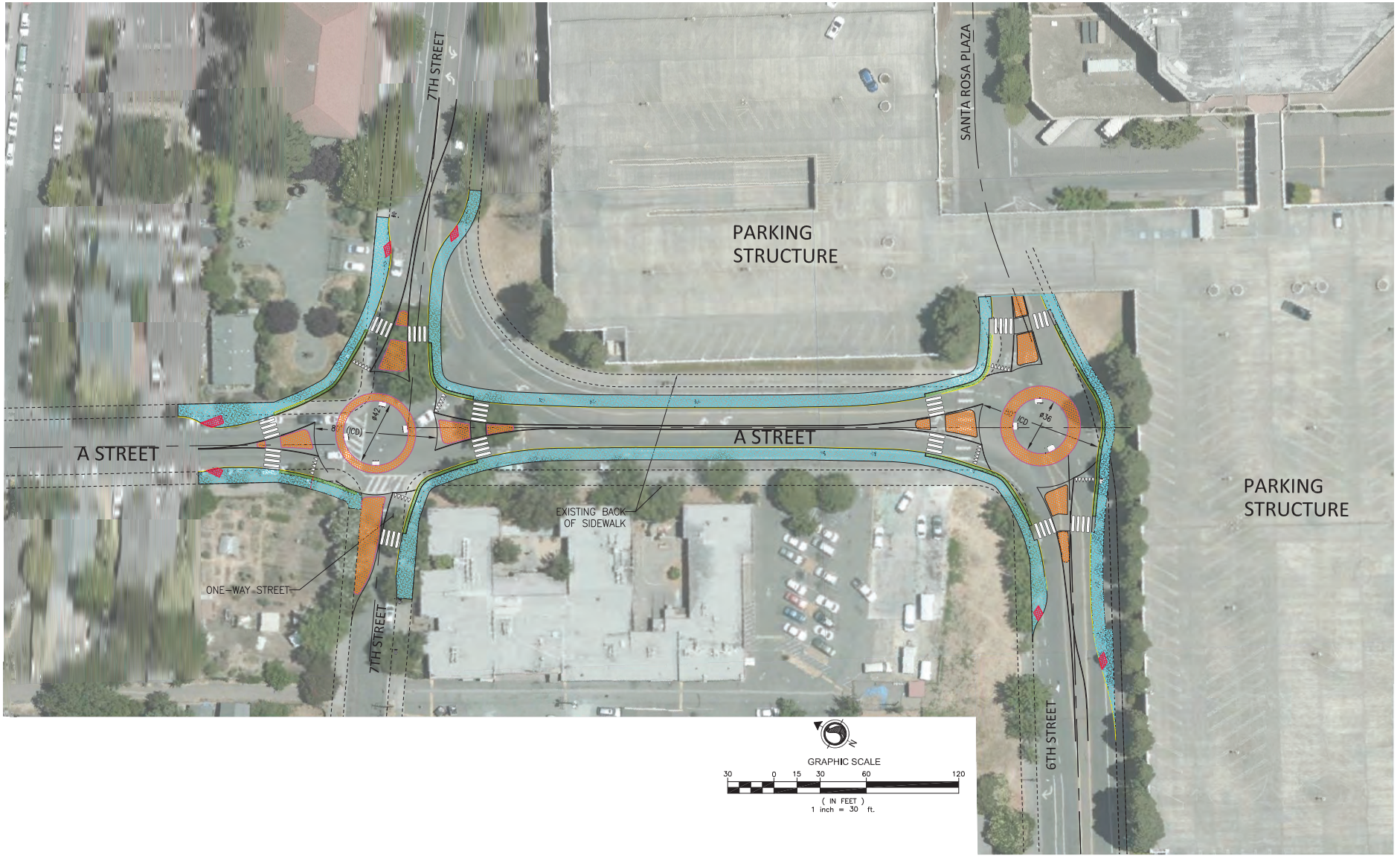
"A" STREET ROUNDABOUT CONCEPTS
WITH ONE-WAY STREET ON 7TH STREET

PROJECT NO.

SHEET 4
OF 8

DRAWING: z:\jr--drive\santa rosa\roundabout_exhibits - fire_truck.dwg PLOTTED: 8/29/2019 12:42 PM BY: Pomposo, Vijay



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"A" STREET ROUNDABOUT CONCEPTS
WITH ONE-WAY STREET ON 7TH STREET

PROJECT NO.

SHEET 5
OF 8

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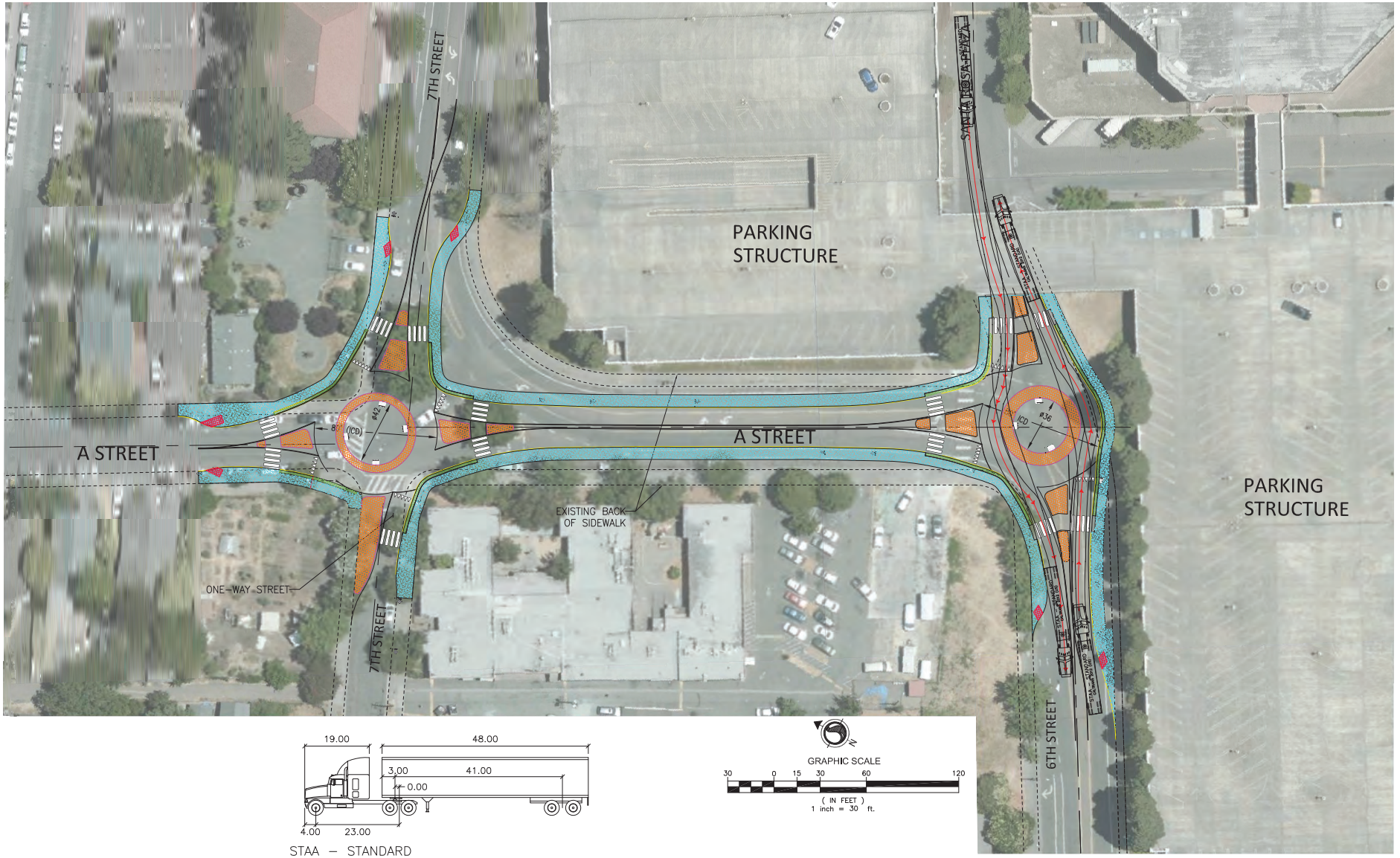

STAA – STANDARD

feet

Tractor Width	: 8.50	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 26.3
Tractor Track	: 8.50	Articulating Angle	: 70.0
Trailer Track	: 8.50		

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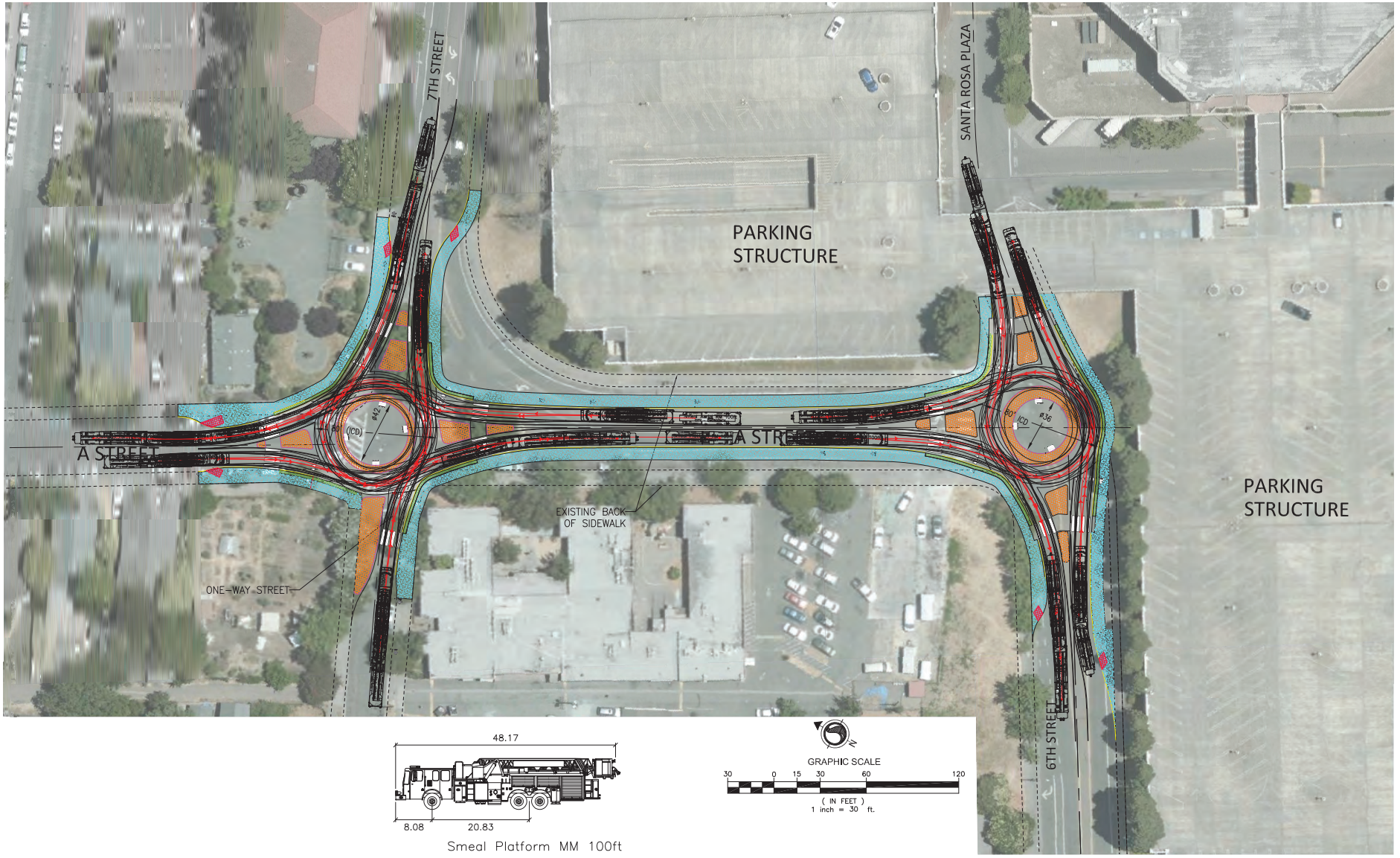
"A" STREET ROUNDABOUT CONCEPTS
TRUCK TURN MOVEMENTS USING
STAA STANDARD

PROJECT NO.

SHEET 6
OF 8

DRAWING: z:\p--drive\santa rosa\roundabout_exhibits – 4– leg fire_truck.dwg PLOTTED: 8/28/2019 6:49 PM BY: Pamparo, Vijay



Smeal Platform MM 100ft

	feet
Width	: 8.33
Track	: 7.92
Lock to Lock Time	: 6.0
Steering Angle	: 45.0

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

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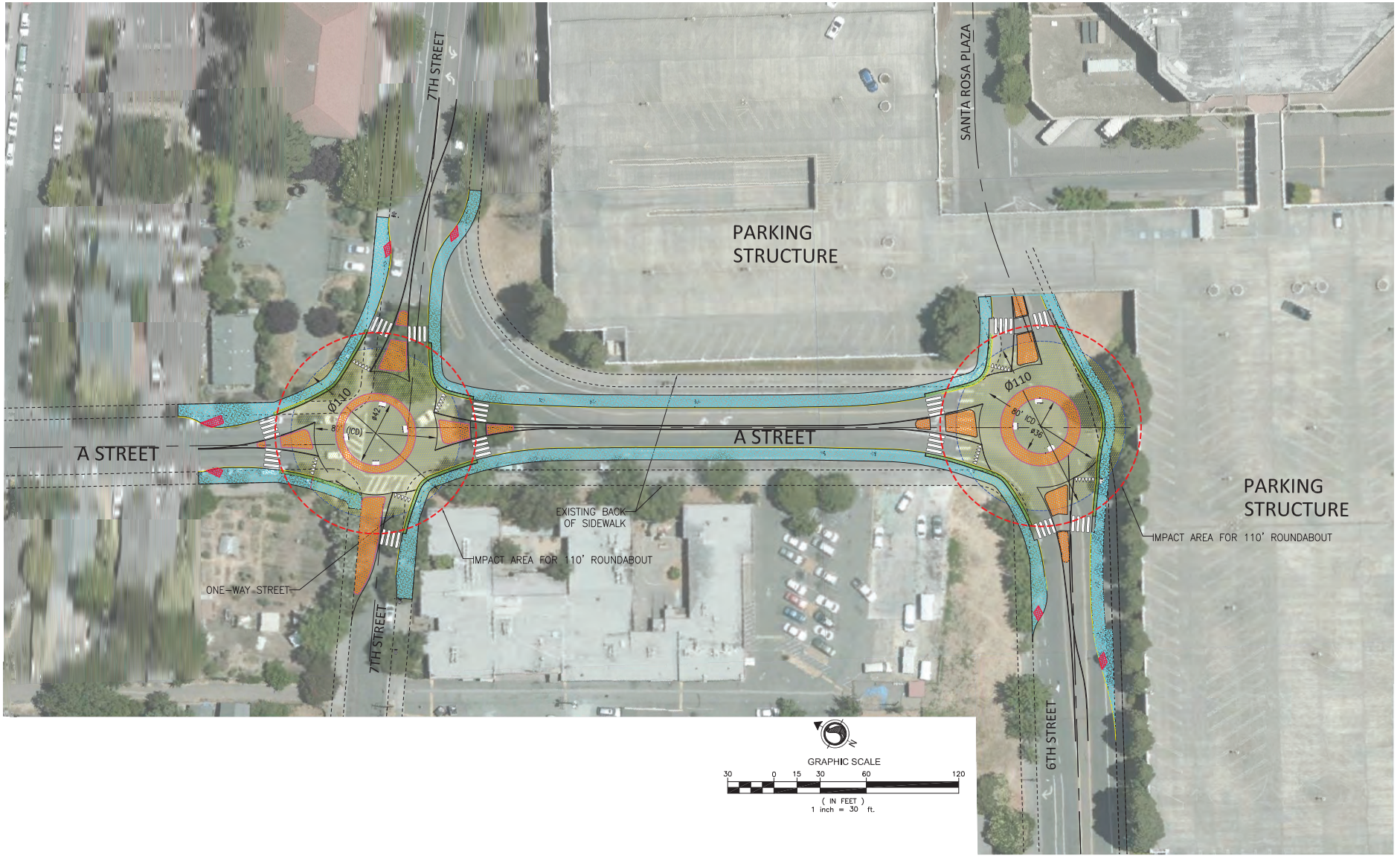
"A" STREET ROUNDABOUT CONCEPTS
TRUCK TURN MOVEMENTS USING
FIRE TRUCK

PROJECT NO.

SHEET 7
OF 8

DRAWING: z:\p--drive\santa rosa\roundabout_exhibits - 4+ leg fire_truck.dwg PLOTTED: 8/28/2019 6:51 PM BY: Pamparo, Vijay



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"A" STREET ROUNDABOUT CONCEPTS
WITH ONE-WAY STREET ON 7TH STREET

PROJECT NO.

SHEET 8
OF 8

DRAWING: z:\p--drive\santa rosa\roundabout_exhibits - 4-- leg fire_truck.dwg PLOTTED: 8/29/2019 12:43 PM BY: Pompora, Vijay